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International PHOTOGRAPHER

JANUARY, 1941

25 CENTS



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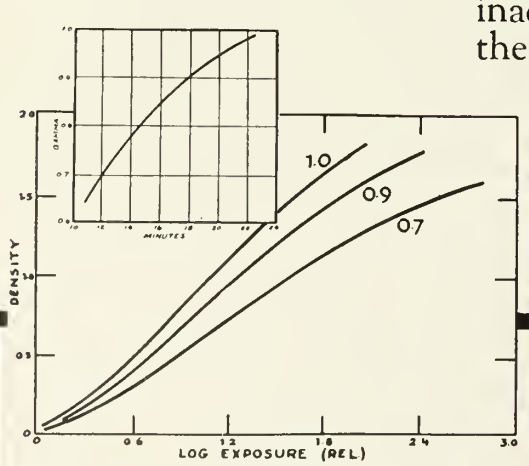
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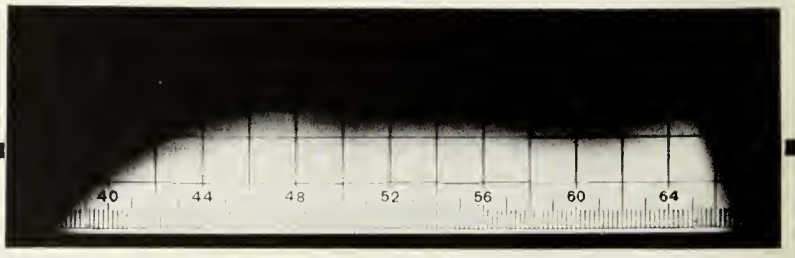
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INTERNATIONAL photographer

Vol. XII **January, 1941** **No. 12**

On the Cover

Orson Welles, in the title role of "Citizen Kane," making a political address. See also pages 4, 5, 6 and 7.

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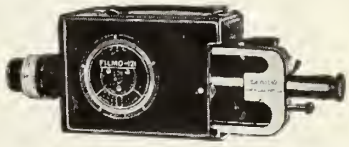
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"LIQUID SUNSHINE" — *By William Mortensen*

MONTAGE!

The studied carelessness of effect, told in a few feet of film, must be carefully exact.

MONTAGE! A little known but lusty infant among the sundry arts whose final assembly is the motion picture production. Little known, but growing fast. Paced by its own inner fire "tempo," it has seemingly at one stroke surged to a position of major influence as a tool for telling the picture story.

Define montage? No. As well define an impression — a mood, induced by the intangible. Montage creates impressions—moods. Through its devious mechanics the montage says, "It is Spring!"; "This is a lonely house!"; or "This man drinks too much and is unkind to old ladies and little dogs!"

Montage mounts its impressions with consummate cunning. The impact of its inferences are at once studied and careless, never to be analyzed, yet instantly understood. Tempo is the life and blood of montage. Whole chapters of a novel may tell of the boyhood struggles of a leading character. Montage says it in eighty cryptic feet. When, in a picture, a montage impression has passed, an audience must know and understand its message as thoroughly as the one created in a novel.

So montage, with all its studied carelessness of effect, has in its practice and achievement of this effect all the craft and precision of a musical composition. "Tempo" is the uncompromising master who remorselessly dictates every device and part of montage. Do the years pass? They fly like a shower of leaves! Does the locale change? Before you the world spins to a new continent! Is it spring, and does "our hero" lazily catch fish? It is and he does—in seven feet! Tempo—simplicity — mood — symbolism — action — impact — montage!

Naturally, for this complex medium, new methods, new conceptions have been imperative. Gone quickly were the first faltering steps of assembling cuts from the production itself. At best the message was muddled, halting and of dubious value. Montage must be made for its own purpose, carefully, exactly.

Today a script scene says: "*Montage.* Purpose: Boy and girl thrown more constantly together develop love to the point of marriage. *Cut to* . . . " A large order! A story in itself. And, as is learned, the picture is long so it must be told in fifty feet of film. At the beginning of this montage a boy has just met a girl. At the end of this montage the audience must feel that it is high time he slipped the ring on the proper finger!

At Warner Bros. the problem is attacked in the most advanced manner. The Special Effects department has as one of its busiest divisions the montage unit. This unit is a miniature production company in itself. Director Donald Siegel includes in his crew his editor, James Leicester; his assistant Fred Tyler; prop man "Pat" Patterson. Head cinematographer Robert Burks has in his crew: second man Archie Dalzell, assistant James Bell.

Siegel, Burks and Leicester form the council of war on the planning of the mechanics of the montage "productions." When the precedure has been set, these scenes are released in script form, budgeted and scheduled as carefully as any part of the main picture.

Of especial interest in the shooting of montage are the problems of the cinematographer. During the course of one scene he may be faced with the shooting of miniatures, projection process, split-stages, straight production sets and even highly mechanical inserts. Robert Burks through his 12 years of experience in all branches

(Continued on page 13)

limitations encountered by photographers of the nude

By WILLIAM MORTENSEN

THE ARTIST in all times has been subjected to various limitations. He is limited by the peculiarities of his medium and the materials he works with. He is limited by economic stringency and social prejudice. These are time-honored limitations. Oddest of all, perhaps, and most annoying, is the limitation of the contemporary photographer by postal regulations.

Our postal regulations are sometimes strange. Some of the strangest are those on the use of the nude in photography. Under them, a nude is very apt to be judged *ipso facto* obscene—no matter what its aesthetic worth. At the same time, a nude rendered in any other medium receives the official blessing—no matter what its aesthetic worth—because it is "Art." All of which points to very confused thinking among those who make the rulings.

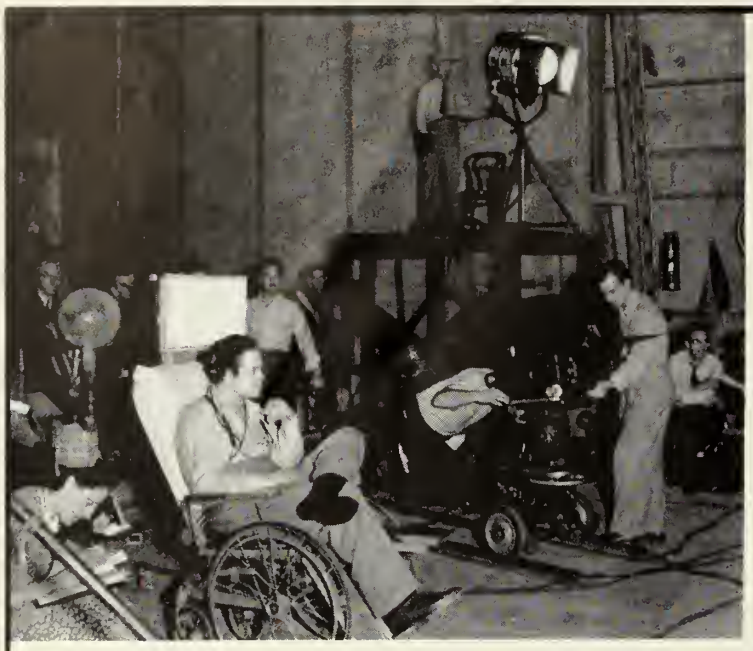
For their predicament, the photographers themselves are not wholly without blame. For, by bad taste, by offensive literalness, by vulgarity, and by occasional downright lewdness, a few thoughtless and ignorant photographers have brought reproach upon sincere workers in this delicate and difficult field of pictorialism. But to base official rulings upon these offensive performances, and upon these alone, is obviously absurd—just as it would be absurd to judge the moral worth of English poetry by the specimens that sometimes appear on the walls of public lavatories.

The photography of the nude must not be attempted frivolously, or in any mood of casual experimentation. The nude is the most difficult of all things to do in photography. Despite all your care, not more than one exposure in a thousand will be worth saving. Yet it is a labor worth while; for the human body, rightly comprehended, expresses the essence of all plastic form, of all beauty.

Data on the Picture

Leica camera, 50 mm Summitar lens; Agfa Finegrain Plenachrome, without filter; developed in DK 20; printed on Defender I 22, with Powder and Abrasion.

"Citizen Kane," Orson Welles' RKO Production.















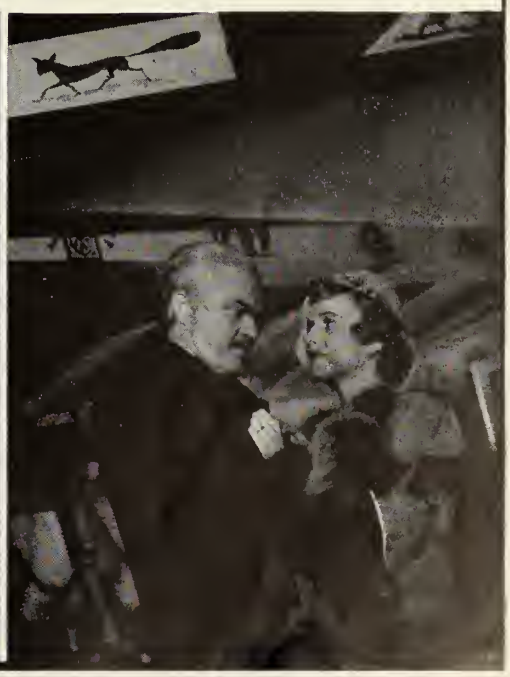


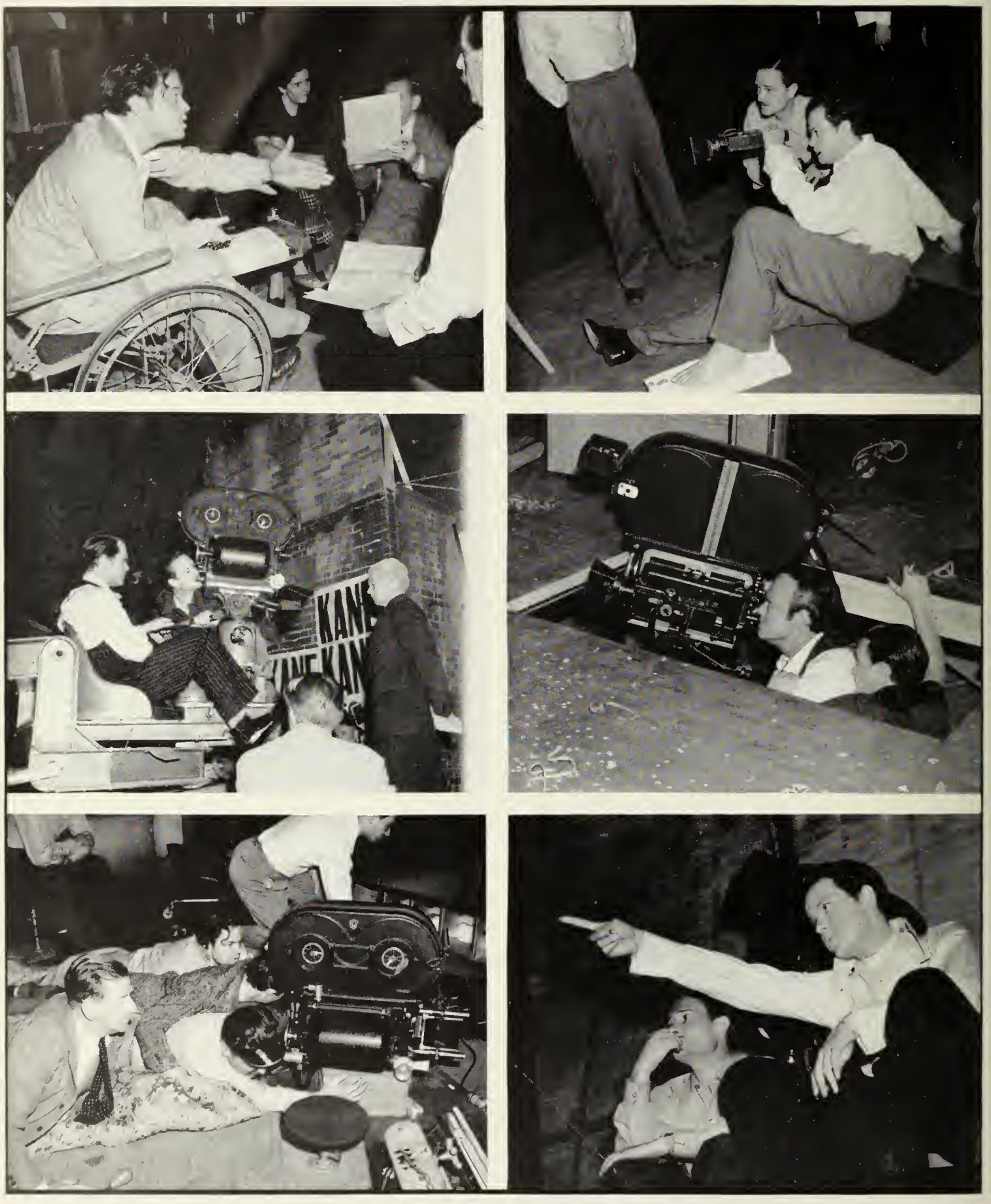





CHICAG
CITY







Candid studies of Welles reading the script, studying the set-up and finally issuing instruction how he wants a scene played. Stills by Alexander Kahle.

WELLES AND THE CAMERAMAN

By Alexander Kahle

Kahle has been a still photographer for about seventeen years, and during that time he has constantly studied the art of making stills. He has advanced with the times instead of standing still. Entirely unaware that we were making notes during his conversation, we pass along some of it which we feel sure will be of interest to our readers.

"Some shots have no effect unless they convey the idea of the size of the room. If the room is huge, that impression should be found on the print. Show ceilings whenever possible.

"Very often straight shots are not half as effective as they would have been if shot at an angle. When I started at Fox six years ago shooting at an angle they feared the worst. Since that time the angles have found favor.

"Take for instance a drunken man. Shot straight-on it doesn't convey nearly the idea that it would if shot at an angle. I have observed in some stills that the drunk just looks as if he were in pain. Suppose the inebriated one is shown asleep at a table. A straight shot would indicate him merely sleeping, but if taken at an angle, one is sure of his condition.

"I am a firm believer whenever possible in getting the camera low and shooting up. This is especially effective if the subject happens to be gazing upward.

"Before shooting I decide what I want to emphasize and then concentrate on doing just that. Perhaps it is only a gesture, or a facial expression. By placing my camera at a low angle it is possible to make the person to be emphasized appear larger than the others. Sometimes a shadow three times as large as the subject will convey just the desired effect."

(EDITORIAL NOTE.)

When I heard I was to make the stills for Orson Welles' first RKO picture the assignment was more than welcome. I had heard of his plans to film Conrad's tropical tale, "Heart of Darkness" and of his theories for that picture which, as you will immediately see, were of tremendous interest to any photographer. Welles wanted to make the camera tell the story, be the principal character, as a matter of fact. This presented highly fascinating technical problems to the cameramen and it was a disappointment when he was unable for various reasons to make the film.

However, work on "Citizen Kane" turned out to be just as interesting, since Welles and Gregg Toland, his cameraman, are nothing if not experimental. The picture represents to some extent, a development and extension of the beautiful camera work Toland did in "The Long Voyage Home," with certain amendments by Welles.

The two saw eye to eye from the first and the initial days of shooting represented a series of experiments. Welles, for instance, put ceilings on every set, had the characters occasionally look right into the camera and generally violated all the cliches of Hollywood photography. The ceilings on the sets aided the intensity of the scenes enormusly and, combined with Welles' and Toland's penchant for a very tight composition, resulted in the use of the camera as an adjunct to the creation of mood and feeling. Not just the recorder of events.

But the biggest and most startling thing about the photography is the use of the new coated lenses and an effort, completely successful, to keep the whole area of the screen in sharp focus at all times. There are no blurred foregrounds or backgrounds and some of the shots traversed two full sound stages, about two hundred feet from lenses to back of the set.

The tremendous depth of field, the ceilings and the general effort to make the settings look completely natural, (great attention paid to shadow detail) made necessary a new attitude toward lighting. It is too common for Hollywood product to look completely washed out, with everything having equal values in the lighting. It is not noticed particularly but that is because the audiences have become so used to it that it has become a convention. Like the two dimensional screen. The Welles-Toland lighting is as near to three dimension photography as you can come with the materials at hand.

The particular virtues of the sharp focus and naturalistic lighting are that they will not be noticed at all by the non-camera minded audience. They will do their work as an aid to photography without making themselves apparent. The sharp focus, of course, puts a new responsibility on everyone concerned with the screen. You cannot just go out and shoot the usual script with the Welles-Toland method. The script must be written with the process in mind and the director must make the actors comport themselves with the thought that now the film audience will have the same privilege of looking at any part of the screen, as in the theater where if the leading man is a bore you can watch the pretty maid in the background. This is not to indicate that the closeup has been done away with.



CAMERA CATCHES WELLES IN ACTION: Directing, Awaiting the Action, on Snow Set.

Welles has simply added one more thing to the art. He uses every trick in the bag. There is a good deal of special effect work, by Vern Walker and his crew and it should be stated that Toland's veteran crew (they have been with him for years) were able to get what he wanted with a minimum of time. The camera operator was Bert Shipman; assistant cameramen, Eddie Garvin and Ledge Haddock; head electrician, W. T. McClellan; the grip, Ralph Hogge.

"Citizen Kane" was more than a pleasure to shoot. In the first place, of course, there was Welles, who is an enormously engaging and cooperative subject. He never let down for a minute and was practically always doing something worth a picture. Then the story of "Citizen Kane," with its 110 settings, lasting through one man's lifetime, presented endless backgrounds for stills. Welles, who carried his character from the age of twenty-five to seventy-five, wore a series of amazing costumes. His face and figure, also altered, and he never looked the same from day to day. It got so after a while that he wouldn't get past the gate man on his own face.

"Citizen Kane" is the story of a millionaire whose ambition wrecks his life. As a young man he buys a New York newspaper and marries a prominent young debutante. He runs for governor and his wife leaves him when a political opponent exposes the fact that he is living with another woman.

Defeated, but not broken, Kane marries his mistress, and though she has small talent he decides to train her so she will become a famous singer. He goes so far as to build an opera house for her.

Her debut as a singer is a rank failure and the newspaper critics do not soften the blow in their columns.

Despite the tremendous home and luxuries he has bestowed upon her, his lack of love and understanding have made her unhappy and she leaves him—alone, with all ambitions shattered.

Bombs Destroy Camera Eqpt.

German bombs dropped recently around a 20th Century Fox film crew working in Wales, Director William Wyler learned today in a cable from Frances T. Harley, studio production chieftain in London.

The crew was filming background shots at the time for Darryl F. Zanuck's production of "How Green Was My Valley," the Richard Llewellyn best seller about the Welsh coal mines.

The cameramen took to cover at the first air raid alarm. When they returned after the all clear signal, they found their equipment destroyed.

Harley advised the studio that the cameramen would continue working in Wales for the next four weeks in spite of the dangers.

Co-operative Research Laboratory Needed

"There is an urgent need for an experimental studio or laboratory, co-operatively owned by all the producing companies, where special effects men could work and try out in advance new devices and ideas in their highly specialized field."

This is Larry Butler's conclusion after a lifetime in the business. His views on the problems of the trick and special effects man are simple and to the point.

"It is unfair to expect a producer to be more than ordinarily sympathetic to the problems of special effects. Most of the time, experiments have to be made at the producer's risk.

"This is why I feel there would be so much time and money saved by having this sort of research lab where we could conduct experiments in printing and developing between pictures. Where we could exchange ideas for the good of the business. Where we could try out innovations without the risk of holding up production."

After five years in England working at the Denham Studios of London Films for Alexander Korda, Larry Butler returned to Hollywood, where he is now working strenuously on the unusually large number of special effects required for "Lady Hamilton." His first job here was to complete work already started in London on "The Thief of Bagdad." This picture was in the nature of a Roman holiday for a special effects expert.

The flying horse, the magic carpet, the spider and his web, the Genii and his materialization from thin air, the world-wide soaring of the Genii, a score of other minor effects, and all in Technicolor, with most of the job done in war-time—well, Larry was surely glad to get back to the peace and calm of Hollywood last June.

He sums up this "Thief of Bagdad" assignment as chiefly "making, or trying to make, traveling mattes work." Larry is a firm believer in this technique.

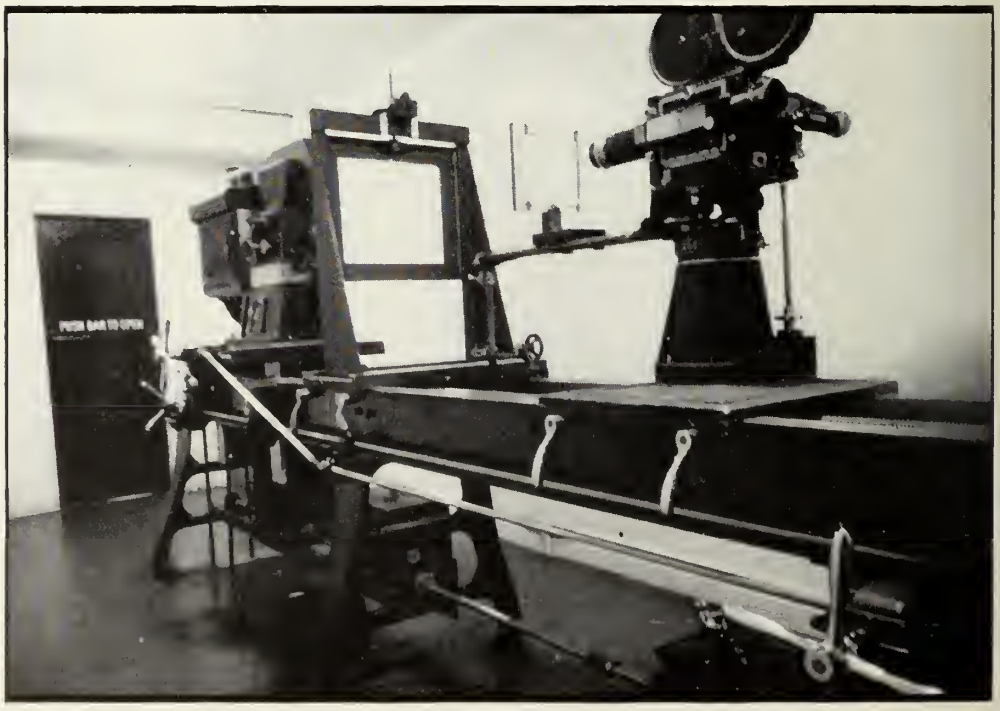
"There are only two ways of handling film for special effects. Double printing or double exposing. It seems to me that traveling mattes have been too long neglected.

"I had a good chance of seeing whether I was reasonably right in this assumption on 'The Thief of Bagdad' job. Time was always an element. So decisions had to be made quickly and the results had to prove the experiment."

There is no office marked "Lawrence Butler" at the Korda studios, although they tried their best to furnish him with one. He can usually be found anywhere between the prop department, the lab, the miniature stage, the process department and the tank.

When he was in London, he inherited a fine suite of offices, complete with leather-covered chairs, a battery of telephones, a swell mahogany desk, and a good-looking secretary. He never used any of them. There was too much to do, working with eager but plodding mechanics, technicians earnest and ambitious but in many cases inexperienced compared to the Hollywood men.

Thoughtfully he says, "Five years in



Traveling matte set-up.

England taught me tolerance and patience —that the other guy often has an angle and often is right. And that being right or wrong is in many cases just a matter of the point of view.

"You see, there are not the number of skilled studio mechanics and expert studio technicians in the English studios as compared with Hollywood. But they are eager. They work their heads off to get a thing done. They are enthusiastic and they put everything they've got into helping you. Of course, there is afternoon tea and other old British customs and the weather often drives you nuts. When you pray for an hour of sunshine and all you get is rain, rain, rain, or days of fog and skies of heavy, gloomy clouds.

"The machine shops at Denham were swell. Those chaps were fine craftsmen and wonderful machinists. In converting optical printers, used for black and white work, to color, we had to develop a lot of gadgets and many problems had to be overcome.

"I think the most difficult re-adjustment to be made while working in England is to realize that you are in a different country, yes, in a foreign country, where customs and manners and ideas are different than your own.

"Because the language presents no difference, you are inclined to expect the same reactions as you would get at home or in Hollywood. And you get a lot of disappointments. So there has to be give and take, adaptability all around, and you have just got to be patient and tolerant. There are two men I think the world of, Vincent Korda and Bill Menzies. They are wonderful, tops to work with. And I could never have a better boss than Alexander Korda. They made my job at Denham smoother. Alex Korda has a complete understanding and appreciation of the problems of special effects. His encouragement means everything in getting a job successfully completed."

Larry is very emphatic that no trick department is better than the art director who conceives the ideas.

Special effects can take those ideas and get them on the screen. If the art director is "trick minded," has imagination and vision, the job of the special effects department is so much easier. Vincent Korda, Larry maintains, has that kind of mind. Nothing is impossible, if you have the time, the men, and the machines to do the job.

Machines and machine shops have always been important to Larry Butler. Coming to Burbank as a kid from Ohio, he went to Burbank High and was flunked out because he spent all his time at the school machine shop instead of at his studies. His teacher at this shop was one Ernzer, a man who loved his work, and tried to teach young Larry everything he knew. He had a lot to do with his pupil's viewpoints.

He gave the young hopeful every encouragement with the result that Larry got his first job with DeMille, casting dishes for the Last Supper in C. B.'s "King of Kings."

While working on "Hell's Angels," he got his first training on miniatures with Roy Davidson. Then on Frank Capra's "Dirigible," he learned his job thoroughly from Ned Mann. From each expert, he added to his knowledge of his job.

He joined Ned Mann as first assistant when Ned went to London, and their first challenge was "Things to Come," one of the biggest jobs ever tackled by special effects and trick departments.

When Ned Mann returned to Hollywood two years ago, Larry stayed on to head the department until last June. This young wizard has a simple philosophy regarding his job. "Once in a while you can pull a shot out of the bag, for buttons. Generally every shot has its price tag."

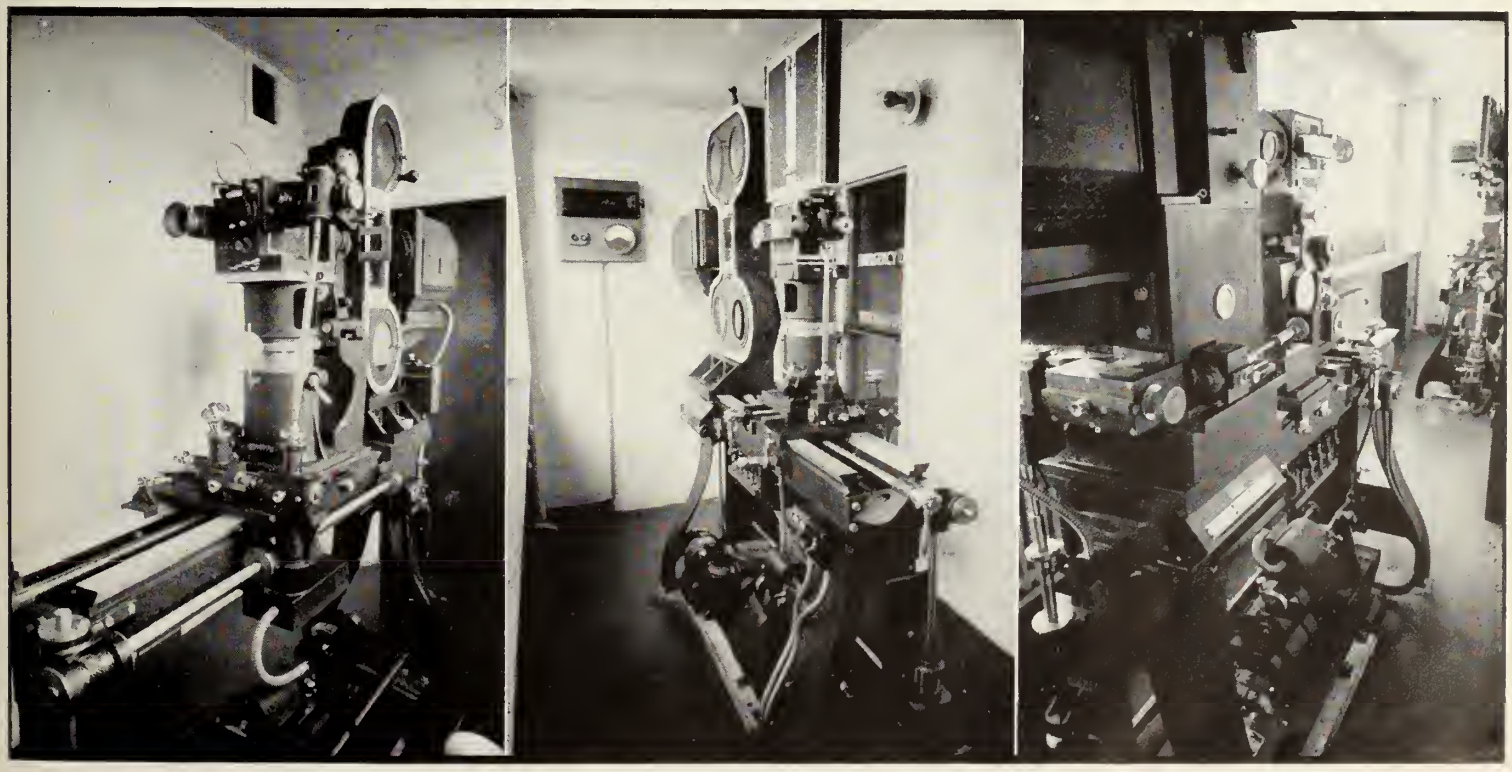
He insists that the use of traveling mattes must be developed. "The Thief of Bagdad" proves their practicability. A differently designed printer and more control in developing are needed. Processing and developing of film have not kept pace with the industry's needs, he feels. Each optical department should have its own developing and printing lab.

Too much experimental work has to be done right on the job. Were there an experimental or research lab available to the industry's special effects workers, time and money could be saved. Ideas could be pooled for the good of the business. There are few trade secrets today. More important is cooperation. A new technique of developing is needed, Larry thinks.

"I am not criticizing the lab work. It is excellent. But for traveling mattes, there have to be improvements. Perhaps by using a new type of developing machine whereby the developer, fixer and washer are applied to the film instead of the film to them. Perhaps loop machines may go into disuse. A system of constant and controlled agitation in a drum type of machine may solve the problem.

"Image size and position can be changed in development. Film, as you know, can be exposed more accurately than you can develop it. Then the improvements must come in the technique of development."

The problems he has encountered in "Lady Hamilton" confirm this. . . . Someday there will be that experimental and research lab and then we shall see.



Views of optical and projection printer.

Technicolor

Is Proud of Its Contribution to Hollywood's Current and Coming Top Productions

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Belle Starr
Billy the Kid
Bitter Sweet
Blood and Sand
Blood Will Tell
Blossoms In the Dust
Chad Hanna
Down Argentine Way
Fantasia
North West Mounted Police
Reap the Wild Wind
Road to Rio
Shepherd of the Hills
The Reluctant Dragon
The Thief of Bagdad
The Yearling
Virginia
Western Union

Technicolor Motion Picture Corporation

Herbert T. Kalmus, President

four years in an ice house

With the inception nearly four years ago of Hollywood's "Low Temperature Sound Stage," California Consumers Corporation, in keeping pace with the studios' demands, has made consistent improvements both in design and quantity of equipment for use in studio snow scenes.

Expanding the number of complete snow machine units from a beginning of one unit, California Consumers Corporation now has available on short notice seven units that can be brought into use at one time. Six of these snow machines are electrically driven: one is operated by a gasoline power unit.

The introduction of Technicolor pictures to the Ice House created an immediate need for greatly increased refrigeration capacity. Wholehearted acceptance of the Ice House by the studios brought about larger sets which in themselves required increased capacity in refrigeration equipment. Modification of the Ice House, interior and exterior, was continually under way, in addition to the usual normal maintenance work that was continued, even during the periods the stage was unoccupied.

During its brief period of operation, the Ice House or equipment has been used in nearly all pictures that have elaborate snow scenes, and hundreds of studio technicians have shivered in its arctic temperatures that are controlled at will.

In the studios' use of the Ice House, many of the technicians and members of the cast have been guests of the Los Angeles Ice and Cold Storage division (across the street from the Stage), visiting the sub-zero freezing rooms where hundreds of tons of frozen fish, armored with a coating of ice, are stacked like cordwood.

With the introduction to the Ice House of Paramount's Technicolor production "Untamed" many changes were necessitated due to the enormous increase of carbon arc illumination required for Technicolor work. In close cooperation with Paramount's Technical Engineer, Mr. A. C. Zoulis, the Engineering Department of the California Consumers Corporation finally arrived at the conclusion that nearly 650 tons of refrigeration would be required to offset the lamp load of approximately 17,000 amperes. These 650 tons of refrigeration were needed to chill approximately 65,000 cubic feet per minute of fresh air required to replace the foul air contam-

(Continued on page 26)



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MONTAGE!

(Continued from page 3)

of Special Effects work is peculiarly and happily fitted to cope with all of the constantly arising problems of novel effects and scenes. His crew with Dalzell and Bell have been assigned to him for like reasons of greatly varied experience.

Director Siegel and Cinematographer Burks like to point with satisfaction to ringing the bell successfully in such pictures for Warner Bros. as: "All This and Heaven Too," "Dr. Ehrlich's Magic Bullet," "The Fighting 69th," "My Love Came Back," "Sea Hawk," "They Drive By Night," "Til We Meet Again" and "The Lady with Red Hair." Part of their satisfaction which is particularly gratifying is the fact that their technique has been clever enough to conceal to any but the initiated that in these pictures there is any such thing as a *montage!*

Watson Booklet

Burke & James announce that the new Watson Booklet, just off the press, is available free to readers of International Photographer. Address Burke & James, 223 W. Madison St., Chicago.

RETRACTION

● In the last issue of INTERNATIONAL PHOTOGRAPHER an article headed "Special Effects at R.K.O." should have been headed "Cosgrove Special Effects Department of David O. Selznick Productions."

This department, under the technical supervision of Clarence Slifer, has been responsible for all of the fine Technicolor and black and white special effects on productions, "Gone with the Wind," "Rebecca," "A Star is Born," "Garden of Allah," "Tom Sawyer," "Prisoner of Zenda," etc.

Much of the equipment developed for these productions has been accepted by many of the various studios. At the present time the department is engaged in several new ideas which should revolutionize the Special Effects field.



This still by Elmer Fryer shows the crew in operation shooting James Cagney in Warner Bros. Production, "Strawberry Blonde." Standing, left to right: Dick Williams, sound man; "Red" Breen, stand-in; Robert Burke, first cameraman; W. G. Buster, grip, and James Cagney. Seated, left to right: Donald Siegel, montage director; Arch Dalzell, operating cameraman; James Bell, assistant cameraman; Pat Patterson, prop man; Robert Lee, Sound Mixer.

"I Wanted Wings," Paramount Production.













Showing the camer
formation of plane

By KEN LOBBEN













wat work as well as
e United States Army.













"I Wanted Wings". With the exception of the lower left these stills were made by Tommy Morris with a Leica Camera. Lower left showing Leo Tover, first cameraman; Ernie Laszlo, second and Frank Burgess, assistant; by Ken Lobben.

THE CAMERAMAN IN THE AIR

By Tommy Morris

IF ANYONE ever steps up and offers you an opportunity to handle a camera in an air picture—my advice, which usually isn't worth much, is to jump at the chance.

I'm speaking from experience this time, for only recently I was fortunate enough to be included in the large camera crew which went to Texas to film Paramount's "I Wanted Wings." It was a lot of work, of course, but an experience and a thrill that was well worth having.

"I Wanted Wings" is the story of the training of air cadets for the American Air Corps. We were quartered in San Antonio, for both Randolph and Kelly Fields, the primary and finishing instruction bases, are located near that city.

Ray Milland, Brian Donlevy, William Holden, Veronica Lake, Constance Moore and Wayne Morris play the principal roles, with Mitchell Leisen directing. In all, there were about 140 persons in the troupe.

We had our headquarters in the St. Anthony Hotel, and had excellent accommodations and meals. The entire location was handled perfectly. A production office was set up at the hotel, and all arrangements were conducted in the same manner as they are at the studio. Whenever we wanted anything, or needed something done, we merely called this production office, instead of trying to locate a business manager or assistant director. It saved time for everyone.

Our camera crew was an extensive one, with plenty of work for everyone concerned. The first unit was headed by Leo Tover, with Ernie Laszlo, Otto Pierce, Frank Burgess, Byron Seawright and Charles Russell. Loyal Griggs was in charge of the second unit and transparency backgrounds, aided by Arthur Lane, James Grant and S. A. Sanford. The air crew consisted of Elmer Dyer and myself, ably piloted by Paul Mantz, the noted flier. Kenny Lobben and Don English made up the still crew.

An air picture naturally takes more equipment and planning than is normally used—much more than one would think. We had three special camera planes, for example, and two air cameras.

One plane was a fast little Boeing, on which we fastened a stationary camera, either on a wing or in the landing gear. Paul lined his windshield up as a finder, and operated the camera from a switch in the cockpit.

He was welcome to those shots, by the way, for they were all fast dives, follow shots and forced landings.

The other two planes were a high-wing Vega for side and down angles, and a low-wing Orion for shooting up at formations from underneath.

The Vega was used most, as the majority of the shots we made were down or at an angle out the side. Mantz built a sliding camera mount which fitted in the doorway. By moving it out we were able to shoot nearly straight forward or backward. To reload all we had to do was to slide the camera into the cabin, out of the slip stream. The force of the slip stream, at 250 miles an hour, is tremendous. It is so strong that it can break a man's arm should he be so incautious as to suddenly thrust an arm into the open air.

On some days we went on four hour flights, and would reload six or eight times in the air. The sliding mount proved itself of immeasurable value in this point alone. But we did discover we should be careful. One day we forgot to lock the mount, and when Paul went into a steep bank, the camera slid out to the end of the track and nearly took Elmer with it.

As mentioned, we used two cameras on the job. One was Dyer's Akeley, for fast-panning action shots, and the other his special rack-over Bell & Howell for plates.

I'd like to say right here that a lot of credit should go to Paul Mantz. What a flier he is! I'd be willing to go up in anything he could get off the ground. We had a few trips in pretty rough weather and wondered if the plane would hold together, but we always got home all right. Paul has a great mechanic, too, in Jim Barton, who always had the planes in tip-top condition. In fact, his only advice to us was: "As long as I stay in the cockpit, boys, you stick with me. Don't bail out unless I do." He never did—so we didn't either!

Elmer had a plenty tough job on the stick end of his camera against that fast air speed. It was no fun, as he was usually lying on his stomach fighting the wind and nearly being torn apart holding his camera in position.

My job was to assist Elmer in the usual work—change filters, lenses, reload, keep records of shots. In addition I wore a receiving headset and talked with Mantz by microphone, relaying signals from Elmer regarding plane positions and speeds. Paul was in radio contact with the Army ships, so we managed to get some nice formation shots.

The biggest thrill to me was hedge-hopping about ten feet off the ground, just skimming trees, barns, houses and fences. One day Mantz phoned back to us and said to look out the windows and hold our hats. We did—and he promptly flew right between two huge oak trees, sliding underneath the lowest branches by inches.

Our greatest inconvenience was temperature. It usually was about 100 degrees or more on the ground, and 30 degrees (two below freezing) at 16,000 feet. We had to put on coveralls and jackets before each flight and got awfully hot if we didn't go up right away. Five minutes later we'd be in freezing temperatures. Sometimes we had to drop down to around 6000 feet, thaw out, then go back up again. One morning I got my face terribly sun and wind-burned, went aloft in the afternoon and got it frozen. The skin didn't peel off—it came off in chunks.

Flying with the Army planes was a great thrill. We dodged in and out of formations and covered all angles. For most shots we used either 18 or 36 ships because that number was enough to fill the screen for comparatively close shots. Our biggest day was a graduation of cadets from Kelly field, and we flew with 96 beautiful silver pursuit type of planes.

The young men the army is training for air work are really magnificent. They're 100 per cent in physique, mentality and personality. They first get a four-week course in basic flying. They then are graduated, and move to Kelly field and are instructed in the use of a faster and better type of plane. After Kelly, the boys become officers and either go into the service or become instructors at the various C.A.A. fields throughout the country.

From now on I'll never begrudge a single cent of taxes that goes towards this preparedness work. Just the sight of that graduation at Kelly Field was worth the price!

For myself, I'm sorry I couldn't have gotten more Leica shots of my own. Usually I was too busy with pencil and telephone, but I did manage to get a few. Those silver ships from Kelly, and the dark blue and yellow ones from Randolph are great subjects.

Come to think of it, I wouldn't mind winning my wings myself.



THE Kodak photographic paper mill—only one in the western hemisphere—turns out more than a hundred different brands of paper, all noted for their quality, uniformity, and ease of manipulation. And, counting various sizes, colors, weights, contrasts, and surfaces, Kodak is ready on short notice to ship any one of more than 60,000 paper items.

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For complete data on the characteristics, purposes, and manipulation of the papers mentioned and others, write for the 48-page booklet, *Eastman Photographic Papers* (price, 15 cents). It's a dependable guide to best results.

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Shooting backgrounds at World's Fair for "Mr. and Mrs. Smith," Alfred Hitchcock's new RKO picture. In the back seat are George Henners, first cameraman; Bill Anzel, assistant (both of New York Local 644), and Vernon Walker, Process Department, RKO, Hollywood. Owing to the narrow space between posts along the walks, a Crosley car was used as camera car.



Camera crew on Columbia's "Penny Serenade." Reading left to right: Victor Scheurich, Jack Young, Tom Jackson, Lee Davis, Buddy Harris, Emil Oster (head of camera department), Bill Jolley, Joe Walker, Fayte Brown, George Keller, Roy Babbitt, Bob Wasserman, Jack Russell, James Goss; sitting in the foreground (holding hat) is Sam Rosen, author of the article on facing page, and George Stevens, director. Still by Irving Lippman.



Scene after the "earthquake."

columbia's quake shakes eight

By Sam Rosen

Apparently Hollywood can never be satisfied.

It is a matter of record, if the seismograph at the California Institute of Technology is to be believed, that Southern California receives its shares of earthquake shocks.

But what did Hollywood do? It created its own earthquake for a breathless minute in a motion picture and one so violent that even Dame Nature must have blushed with envy.

Although the movie quake lasted for less than two minutes it was in the making for three weeks. It provides the dramatic moment in Columbia's "Penny Serenade" when, in Tokyo, Cary Grant and Irene Dunne are planning the future of their unborn heir. But an earthquake strikes: Miss Dunne is crushed beneath the debris and the expected child never arrives.

George Stevens, the producer-director, wanted his earthquake to be the most realistic one ever filmed. For it, Columbia's Stage Eight, one of the largest, was converted into a Tokyo scene. Built entirely on movable stages, on iron wheels and steel rails, a two-story Japanese pavilion, completely furnished upstairs and down, filled the foreground.

Beyond, through wide glass doors, were spacious Japanese gardens with rock fountain, bridged flowing brook and flower beds. Beyond the garden and the tall bamboo fence and ornate gate was a full sized Tokyo street with buildings built to perspective and the Tokyo skyline in the distance.

Daily, for a week, technicians tested the earthquake set. For the actual filming, Stevens chose Saturday night for two reasons . . . so that the tremendous racket would not interrupt other companies at work and to avoid visiting studio workers on the dangerous set.

For five hours before the quake, Stevens rehearsed, checked and rechecked his destruction crews. Surrounding him were Joseph Walker, head cameraman, and ten complete camera crews. The Operators were George Kelley, Victor Schuerick, Lee Davis, Dave Ragin, Jack Russell, Buddy Harris, Fayte Brown, Guy Wilkey and Jack Young. The Assistant Cameramen assigned were Bill Jolley, Sam Rosen, Joe Citron, Jimmy Goss, Enzo Martinelli, Bob Wasserman, Irving Klein, Tom Jackson, Roy Babbitt and Jack Kenny. Each camera was focused on the vital points of the planned catastrophe and the camera motors at various speeds. Van Pelt operated a motor driven Eyemo for real action stills and Irving Lippman shot the production stills. Emil Oster, head of Columbia's camera department, stood by to see that all cameras were mechanically fit. On a platform commanding the complete scene, the director sat before an illuminated master keyboard. On the keyboard were twelve red lights and electric switches. Each light and switch controlled many stations strategically placed around the set, where fifty specialized Special Effect men supervised by Dave Vail awaited Stevens' red-light cues.

A final rehearsal was called. Stevens throwing his switches. No. 1 station—Steam hammer ready; No. 2 station—Steam winch ready; No. 3 station—Water gusher ready; No. 4 station—Falling building ready; No. 5 station—Falling building and overhead dump table ready; No. 6 station—Gas explosion in street ready; No. 7 station—Falling gate and garden wreckage ready.

On down the list, with split second precision, Stevens called the roll of his destroyers. The roof was ready to crash the glass doors. A two-foot square beam was poised to penetrate a wall. The second floor was ready to collapse and the stairs has been prepared to crumble.

"Release safeties," Stevens called to his crews.

"Test cameras!"

Briefly, the cameras rolled, the experts released the scores of safety devices for the falling debris, crumbling walls and floors. All persons except those absolutely necessary to film the quake were ordered from the stage. The cameras and cameramen were protected beneath a heavy wooden canopy.

Cameras were rolling for the take and chaos struck savagely. The steam hammer pounded the two-story house back and forth. The steam winch shook the outside gardens and the street violently. In the garden the rock fountain crumbled, shooting a great geyser of water over the trembling set.

In the background, a wall fell out of a building, baring its innards, spraying it with debris. Another building toppled . . . a cloud of dust arose. In the street, a gas main exploded, ignited and shot huge flames upwards. The garden gate fell, the roof of the pavilion plummetted down, shattering big window panes in the house.

In the garden, Cary Grant was continuously being thrown off his feet. In the house a shrieking Irene Dunne clung to the palsied stairs. The garden gate collapsed. Water gushed from the garden brook. A huge beam was shot through the wooden wall. The ceiling collapsed and the two rooms of furniture shot downward. In the immediate foreground, a great mass of broken timber, balsa wood and bricks, shattered furniture and rubbish clattered onto the canopy over the cameras and bounced off.

Less than two minutes later, a set that had taken three weeks to build was completely demolished in one "TAKE."

Director Stevens and Cameraman Joe Walker started over to the next set for the next day's work.

It was just another day's work in Hollywood.

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16mm. department

While Thinking about Mr. Unseld's article on Lens Perspective in this department last month, we began wondering whether we had not jumped a little ahead of ourselves. Frequently, in this and other technical fields ,we are prone to take many basic established facts for granted without understanding why they are basic facts, and to work on from there, often achieving a high degree of proficiency with a medium about which we are none too familiar from the "why" standpoint.

Generally speaking, the amateur who is seriously interested in cinematography thinks of his lens as an integral and important part of his camera and that is either good, bad, or indifferent, according to the price that he was able to pay for it and the job that it has to do. He devotes most of his time to *doing* those things. However, there is much to be said in favor of knowing why those things that take place do, aside from the feeling of personal satisfaction that comes from knowing the subject thoroughly. This can all be summed up in the statement that this knowledge removes the mystery of why any particular shot was a success or a failure due to optical reasons.

This article does not pretend to remove all that mystery for the obvious reason that a subject of such scope could not be treated completely within these limits. It will, however, give a basic understanding of the principles involved that will form a foundation for further reading.

Lens action is based on the principle in physics known as *refraction*. Reduced to everyday English, it is the *bending* of light rays. We are all familiar with the sight of a spoon in a glass of water or tea, where the spoon appears to be bent at the surface of the liquid. We have watched an object lying at the bottom of a shallow body of water and seen it change its shape —become elongated, shortened, or otherwise distorted—as the ripples of water flowed over it. And we have watched the "heat-waves" rising from the surface of the highway while driving along and seen the "ripples" make the distant objects appear to be fluttering in the "waves." These are all everyday instances of refraction.

Refraction takes place when a ray of light passes through one or more mediums of varying density, or when a medium of a single density varies in thickness and its surface becomes curved. In the case of the water and the spoon, the water is one medium and air the other, and obviously, they are of two different densities; hence we see the rays, or, in this case, the spoon bent at the point where the water or tea meets the air—the surface. In the case of the object lying on the bottom of the stream with ripples flowing over it, the object appears elongated or shortened by the ripples because of the curvatures presented by the surface of the wave forms.

In the case of the "heat-waves" rising from the surface of the road distorting familiar objects, the air itself will be the only medium, but will vary in density as it becomes alternately hotter and cooler according to the "waves" of heat coming up from the pavement. Since hot air expands and cool air contracts, and as the air expands it occupies more space for the same actual *amount* of air, its density will decrease when it is heated and increase when cooled. It is this continuously changing density due to the "waves" of heat that will give the objects the appearance of fluttering, because the rays of light they are sending toward us are being bent by the changing density of the air.

Basically, a lens works on the same general principle, although, strictly speaking, more like the second example given. Having a medium of constant density, glass, it is the curvature that it presents to a medium of second density, air, that brings about the bending of the rays. But here is where the similarity stops, because from here on everything is carefully planned to do a specific job. Instead of the rays being bent in any which way that nature might find them, they are bent according to a definite formula, so planned that they will come to a point, or converge, a short distance behind the lens. The rays of light coming from any ordinary object travel in straight lines—parallel lines. The lens bends these straight lines, brings them to a point, known as the focal point (or just plain focus), and the distance behind the lens at which these rays come to the point is known as the *focal length*, a very important measurement. The point at which the rays come to a focus is the point at which we will see clearly projected on to anything which we may wish to place in this particular position (film, ground glass, paper, etc.), an image of whatever may happen to be in front of the lens.

A lens of the type described is known as the simple meniscus lens. It is a single piece of glass with a convex curvature on both sides, or a double convex lens, and of the type generally found on box cameras, and is the simplest lens known. This lens has many defects, however, and is not generally useful for good photography because of these defects, or aberrations. A lens of the simple meniscus type will not bring into focus at the same point on the film all objects which are in a straight line the same distance away from the lens, or camera. In other words, if our camera were placed fifteen feet away from a group of people in a straight line, all of these people would not be in focus on the film at the same time, even though they are all exactly fifteen feet from the camera. This defect is known as spherical aberration. Secondly, lines that would be straight in the scene would appear to be curved on the picture (curvature of the field). Another defect that would be found would be that objects possessing the usual colors would not have the different colors come to a focus at the same point on the film—this defect is chromatic aberration. And still another difficulty would be astigmatism, or the inability of the lens to bring horizontal and vertical lines into focus at the same time.

To correct these difficulties the modern "anastigmat" lens is actually a system of three or more lenses, or components, with the simple meniscus as its basis. In word, the solution is a simple one: algebraically, a plus two and a minus two equals zero. In the simple meniscus lens, the defects are measured as a definite positive quantity, then these same defects are ground in the opposite direction into another lens, or as a negative quantity. In practice, this "corrective unit" consists of two lenses, or components, one of them a positive lens, and the other a negative one, so that their dioptic power (their power as a lens) is zero also, leaving the simple meniscus lens in the rear of the system to do all the actual work of focusing the rays to a point. In this manner we have the simple lens working unmodified or otherwise changed by the system in front of it, yet with its defects or aberrations eliminated by cancelling them out with the front components.

Scheibe's Hotspot Iris

Projectionists who are employed in the transparency department find that they are bothered with the "hotspot", a flare of light on the screen that is the result of the arc in the center of the picture being hotter than on the sides of the picture. Many devices and methods have been tried to offset the "hotspot", but with the development of background projection effects a decade ago some cure was needed. I developed what is known as the "Hotspot Iris."

Scheibe's Hotspot Iris is adjustable in many ways. It is used on the projector to eliminate the "hotspot" in the center of the screen so it will photograph as evenly as the sides of the screen. The Hotspot Iris is moved toward and away from the projection lens until the hotspot is eliminated from the screen.

After the "hotspot" is eliminated the screen is photographed with the actors and actresse betwen the camera and screen. Cameramen go out on location to photograph backgrounds for process work the world over and the Hotspot Iris aids materially in making such efforts possible.
The Hotspot Iris is made in 6″ x 6″ and 8″ x 8″ with a blue or a neutral color in the center. About .50 neutral is the best color to use, though any desired color will be made.

TELEVISION

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Summary—*The Television Committee of the Society during the past year has carried out a considerable amount of work as listed:*

(1) Flicker and visual fatigue in television has been studied, a preliminary report on which work is presented herein.

(2) A study of the most suitable type of film for television transmissions has been carried out, a report on which will be presented also.

(3) More material has been added to a bibliography and glossary of terms in the field of television, which work was started more than a year ago and which still continues.

Preliminary Report of the Sub-Committee on Flicker and Visual Fatigue

General—Since early May of this year, a sub-committee has been actively studying the problem of frame frequency in television. In this assignment, it was instructed to correlate available information on the subject as affected by three major factors, namely: *(1)* Flicker. *(2)* Portrayal of motion. *(3)* Visual fatigue.

The need for such a fact-finding committee has become more apparent within the past year and it was felt at the outset that the motion picture industry as a whole was peculiarly well situated to assist television in this work. Because of its familiarity with existing experience, the ability within its ranks, and ts tools for prosecuting new experimental work when the need for such work was determined, the Society of Motion Picture Engineers is in a particularly favorable position to sponsor such work.

The first task was to index and abstract as much of the existing literature as seemed pertinent and possible. Following this work, the gaps in existing knowledge would be more apparent and as the need for further work was apparent, experiments and means for performing them could be devised.

This report covers the first part of this program.

Bibliography—A list of the articles and books found to date relating to this subject is appended. It is not hoped that this is complete and since it is only necessary that the information obtained be comprehensive, pertinent, accurate, and descriptive of the essential facts, completeness in the bibliography was not considered vital.

Summary of Findings—Since television observation, as a visual task, is not essentially different from motion picture observation, it is possible to correlate data from the latter field for direct use in the former. One important element in such considerations is the average brightness level found in current practice.

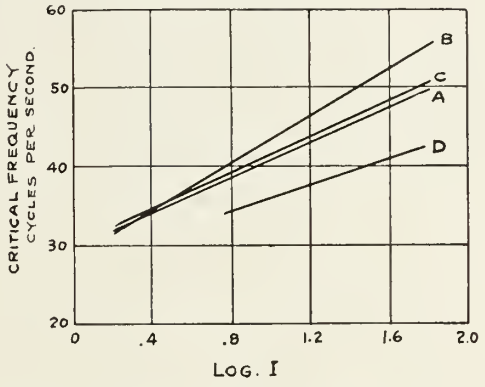


FIG. 1. Critical frequency *vs.* log intensity for 4 degrees diameter of stimulation area for 4 subjects (*P. A. Snell, J. Soc. Mot. Pict. Eng., May, 1933, p. 367*).

General experience shows that visual fatigue accompanies any prolonged visual task and since motion picture observation can be no exception to this, it is not to be expected that television observation will be an exception. Opthalmological research has revealed the importance of object brightness in the problem of visual fatigue; therefore, data on the present screen-brightness practice in the motion picture theater is of fundamental importance to the object of this work. The data submitted have a direct bearing on the television problem since some general knowledge obtained from practical or every-day experience is available to everyone and correlated technical data are available to the specialist from the field of motion pictures.

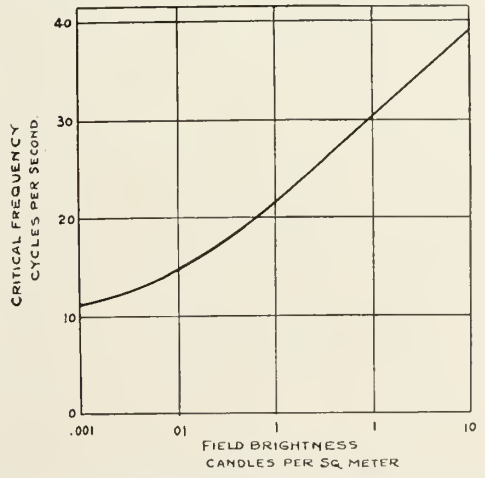


FIG. 2. Critical frequency *vs.* brightness for square wave—white light illumination cycle (*Fig. 94, "Principles of Optics," Hardy and Perrin, McGraw-Hill Book Co., New York*).

A survey made early in 1940 and covering a group representative of the larger theaters in the United States (seating capacity from 2300 to 3500) shows a range of central screen brightness of from 6 to 10 foot-lamberts, as reported by Mr. A. C. Downes of the National Carbon Company. These measurements were made with the projector operating without film For the smaller theaters ,which are in the vast majority, it has been reported that a comparative figure would be about 4½ foot-lamberts under similar and favorable conditions.

Since these figures are significant in the study of flicker and visual fatigue, they are included in this report in order that the present practice may be correlated with the optical requirements. Reports from foreign sources indicate that brightness levels of the order of 10 foot-lamberts are being realized. This falls within the range of 10+4 to 10—1 foot-lamberts which is the present SMPE Recommended Practice.

Flicker—Since the visual apparatus does not respond instantly to a stimulus or to its removal, persistence of vision can prevent flicker from being observed. It has been shown that above the frequency at which flicker is not observable, the apparent brightness of an object viewed in interrupted illumination is the average brightness, provided the illumination is continued for more than 3 per cent of the cycle. It should be noted that under the most favorable conditions of brightness and flicker frequency, the least perceptible change in brightness is of the order of 1.5 per cent.

The sensitivity of the eye to flicker has been tested by numerous investigators who agree in general that the frequency at which the phenomenon disappears, called the critical frequency, is a linear function of the logarithm of the brightness within the range of present interest. Certain authors carefully specify a constant area of stimulation (see Figs. 1 and 2).

At least one authority is convinced that flicker is still apparent on the screen and, furthermore, feels that present brightness levels are so low that a change in the direction of "easiest seeing" would result in still greater flicker. It seems, however, to have been generally granted that the flicker situation has been considerably improved.

The seriousness of flicker is due to the duration of the exposure when observing motion pictures of television programs. It has been found that at a constant average brightness the percentage duration of the light stimulus during the cycle affects the critical frequency (Fig. 3).

The same authority states that the fundamental component of the Fourier series expressing the stimulus for constant average brightness exerts a major control on the critical frequency except when the stimulus is *off* for only small percentages of the cycle, in which case the perception, as well as the further depression of the critical frequency, is due to the higher order components. The critical frequencies were found to be lower when the surroundings were dark than when they were made equal in brightness to the field of the test and that results for a reduction of the field of test to 1/5 with surroundings left equal to the previously employed field were than either. Differential sensitivity as measured by the inverse of the Weber Fechner fraction $\triangle B/B$ was found to be highest when the test field lay in surroundings of about its own brightness, the sensitivity being lower for darkened surroundings and considerably lower as the surroundings level was increased over that of the test field. These findings are said to be parallel to the relation between sensitivity to brightness difference and comparative brightness conditions of the test field and surroundings. Other investigators have reported similar findings and state that the sensitivity of the eye to flicker is increased when adapted to bright light as well as when the region around flickering area is illuminated. Maximum sensitivity occurs when the surrounding field is equal to the test field. The process of adaptation continues for as much as a half hour (see Fig. 4).

It is reported that maximum sensitivity to flicker occurs at yellow in the spectrum, being less at either end.

It has been found that the retina is not uniformly sensitive to flicker over its entire surface. The region within 10 degrees of the fovea demands the highest critical frequencies. Since this area is most commonly needed for viewing motion picture and television programs it is indicated that results for this area should be satisfied in both fields.

Flicker tests with a cathode-ray tube screen having an exponential decay curve falling to approximately 2 per cent in 1/24 second have been reported in which the room lighting was about 1/10 foot-candle. At a screen brightness corresponding to 1 foot-lambert, the flicker was said to have been just noticeable at 38 frames per second, noticeable at 35 frames per second, and disagreeable at 28 frames per second. It was concluded from the curves shown and data presented that a satisfactory solution for reduction of the frame

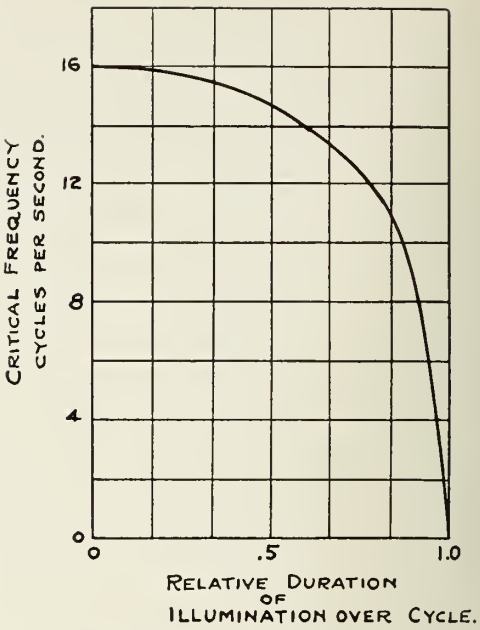


FIG. 3. Variation of critical frequency with relative duration of illumination for spectral blue light in range where critical frequency does not change with intensity (*P. W. Cobb, J. Opt. Soc. Amer., April, 1934, p. 107*).

frequency under 30 per second would not be found in an exponential light-output decay curve.

It is important that effects such as this be reduced to a minimum. Standards of ideal performance should not be dictated by those best equipped visually, but the average of those with "impaired vision" must be seriously considered.

It is apparent that frame frequency is not the only source of flicker either in the theater or on the television screen but since the work of this committee was primarily related to the effects of frame frequency upon certain phases of the television viewing problem, of which flicker was one, no attention has been given to collateral causes and effects of flicker in this field. It is assumed that those effects not being fundamentally subject to Standards having the relationship of the "key and lock," could be considered in other ways.

The Portrayal of Motion—This problem has been the least satisfactorily treated, the literature being meager to the extent of almost non-existence. Resort has been taken to correspondence with the producers of animated cartoons. Only a few replies have been received at this time. Answers to this correspondence are still ex-

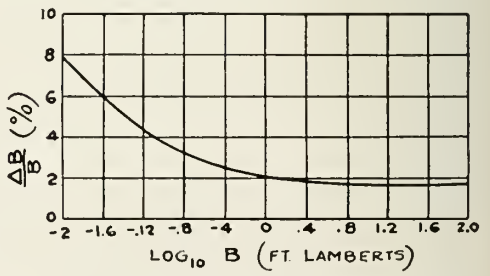


FIG. 4. Weber-Fechner fraction as a function of brightness (*B. O'Brien and C. M. Tuttle, J. Soc. Mot. Pict. Eng., 1936, p. 577*).

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pected but so far they do not contain full information of the kind sought.

It is appreciated at the outset that in this regard television is at present under some handicap in relation to the motion picture. In motion picture production sequences having considerable action are taken by careful choice of the most favorable angles. This necessitates use of lenses which will cover a fair depth of field. the remaining inaccuracies being compensated for by the skill of the cameraman. In television, it has not been found possible as yet to use lenses of the same or equivalent depth of field; hence, it seems reasonable to assume that the cameraman will be forced to choose less favorable angles or risk inexact focus. If the former choice is made, the problem of adequate portrayal of motion becomes much more serious especially if the frame frequency is reduced.

It was reported by J. A. Norling of Loucks and Norling Studios, from experience in days of silent pictures when "projected at 16 frames per second, which then was the theoretical projection speed, an animated cartoon thus made showed rather jumpy action but when the frame frequency was increased beyond 16 frames per second . . . this jumpy action became smoothed out."

He continues, "I review these matters merely to add emphasis to the need for a higher picture frequency than the 8 to 12 picture frequency employed in 2-frame exposures and with projection speeds of 16 frames per second to 24 frames per second"

Commenting on the previous problem (flicker), it was further stated that, for light changes such as prduced by a shutter, for screen illuminations of as much as 12 foot-candles (produced by no film in the projector), flicker is apparent at 96 periods per second (as obtained from a 3-bladed shutter) but the correspondent indicated that smooth motion and not flicker was the essential problem if reduction of frame frequency were considered.

Mr. D. Fleischer of Fleischer Studios, Inc., stated, "In regard to cartoons, we have found the 24 per second frame frequency the most practical for our use and, as I believe animated cartoons will be an important factor in television, I hope that this will not change in their adaptation to this medium."

Mr. W. E. Garity of the Walt Disney Productions stated that the number of drawings used depended on the speed of the motion being photographed and that "for slow movements, a drawing for every frame is necessary."

The committee is still expecting more complete answers to its correspondence and hopes to amplify this section of its progress report when and if this information becomes available.

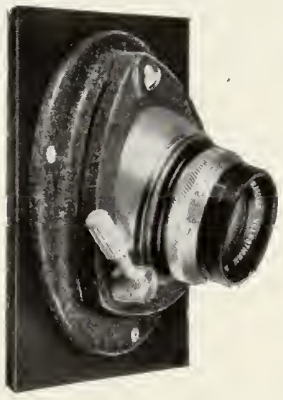
Visual Fatigue—Visual fatigue is a tech-

(Continued on page 28)

TRADEWINDS

Swivel Lens Mount

An ingenious swivel lens mount for all Solar enlargers will soon be released by Burke & James, Inc., 223 W. Madison St., Chicago. The swivel lens mount enables the operator to tilt the lens for correcting



distortion and creating comic effects. It has the advantage of permitting a substantial angle adjustment in all directions.

The mount consists of a lens flange, swivel joint with ring lock and 4x4 inch lens board. It is adaptable for use with most all 3 or 3½ inch lenses. The lens is held securely in place when the desired angle is obtained, and it is the work of only a moment to substitute the regular straight mounting when a change is desired. The new mount (patents pending) will list as a Solar accessory and sell for $5.50 less lens.

Agfa Darkroom Outfits

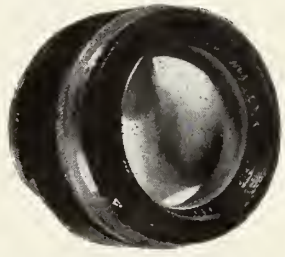
Two new Darkroom Outfits designed for developing and printing requirements of amateur photographers have just been announced by Agfa Ansco. Identified as the No. 1A and No. 2A Outfits, the developing kits provide all necessary material for developing and printing, differing from one another in elaborateness and quantity of equipment.

Both outfits are entirely made in U. S. A. and are obtainable through all regular photographic dealers, the No. 1A at $2.45 list and the No. 2A at $4.95 list.

New Leica Booklets

A new pamphlet has been issued by E. Leitz, Inc., which describes the popular Leitz VIII-S projector. Its various features are outlined and illustrated and in addition, there is information on how to use the VIII-S for micro projection, stereo projection, automatic projection, etc. Another Leitz pamphlet just off the press describes the Models V and VI Synchronized Flash Units.

The number of this pamphlet is 1284; the one on the VIII-S Projectors is 1285. Both may be had by writing to E. Leitz, Inc., at 730 Fifth Avenue. New York, N. Y.



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PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,219,304 — Colored Photographic Multilayer Material. 4 claims.

No. 2,219,305—Photographic Multilayer Material for Color Photographic Purposes. 5 claims.

No. 2,219,306—Photographic Material. 6 claims. *Bela Gaspar*, Hollywood, Calif. Applns. Dec. 3, 1938. In Great Britain Dec. 9, 1937.

Color films having a plurality of emulsion layers with one or more of the layers containing dyes which are fast to ordinary photographic treating solutions.

No. 2,219,850—Sound Picture Apparatus. *Herbert Norman Schwarzkopf*, Lawrenceville, N. J., assignor to Radio Corp. of America. Appln. March 28, 1936. 2 claims.

A removable flexible floor covering having sockets on said covering for fixing the position of a camera, other sockets on said covering for fixing the position of microphone supports, and other sockets on said covering for fixing the position of a graduated screen in alignment with said camera.

No. 2,219,987 — Multilayer Material for Color Photography and Method of Making the Same. 7 claims.

No. 2,219,988 — Light-Sensitive Multilayer Photographic Material and Process for Making the Same. 5 claims. *Bela Gaspar*, Hollywood, Calif. Appln. Dec. 3, 1938. In Great Britain Dec. 9, 1937.

Color films having a plurality of emulsion layers with one or more of the layers containing dyes which are fast to ordinary photographic treating solutions.

No. 2,223,525 — Film Magazine Light Trap. *Charles Melvin Miller*, assignor to Twentieth Century-Fox Film Corporation. Appln. May 9, 1938. 7 claims.

A motion picture camera which has light proof doors at the film apertures which lead to the film magazine the doors opening and closing as the lock on the camera door is operated.

No. 2,221,163—Color Photography. *Virgil B. Sease* and *Deane R. White*, assignors to Du Pont Film Manufacturing Corp. Appln. March 20, 1937. 3 claims.

A method of producing individual color component records from superposed image records by printing an intermediate record of the superposed record, bleaching the superposed records in a non-hardening bleach salt until the outer image is converted to silver salt, removing the salt in a fixing bath, and then reforming the eliminated record by printing through both the intermediate record and the remaining records of the original superposed record.

No. 2,221,329 — Color Photography. *Gustav Wilmanns*, *Wilhelm Schneider*, and *Gerhard von Kujawa*, Germany, assignors to General Aniline & Film Corporation. Appln. Oct. 28, 1937. In Germany Oct. 31, 1936. 1 claim.

A method of producing color pictures by making an exposure on a multi-emulsion negative having special color formers fast to diffusion in it, and printing onto a multi-emulsion positive having color formers fast to diffusion while adjusting the color of the printing light.

No. 2,221,383—Film Footage Indicator. *Otto W. Githens*, *George Kende*, and *Everett M. Porter*, assignors to Universal Camera Corp., New York. Original appln. April 7, 1937. Divided and this appln. July 19, 1939. 7 claims.

A footage indicator for motion picture cameras having a spring motor, the indicator being driven by the spring motor by means of a ratchet wheel.

No. 2,221,726 — Photographic Camera. *George B. Finnegan, Jr.*, and *George D. Creelman*, Mountain Lakes, N. J., said Creelman assignor to said Finnegan, Jr., and Hobart N. Durham, Munsey Park, Long Island, N. Y., a partnership. Appln. Aug. 25, 1938. 5 claims.

A camera having a photocell control for the diaphragm and also a heat sensitive control to vary the transmission of light to the film in inverse proportion to the amount of radiant heat energy in the light.

Ice House

(Continued from page 11)

inated by the gases of the many arc lamps. Roughly, 650 tons of refrigeration which would supply the entire needs of a small city for a long time, barely meet the requirements under the numerous arc lamps used in a shooting period of one day of Technicolor.

An ideal setup for refrigerated air conditioning would be an empty cube or cylinder permitting an unobstructed flow of chilled air.

We are certain that the readers of International Photographer are aware of how much free area there is on the average set, coupled with the large background or cycloramas used to extend the horizon limitations of the sets, creating a genuine headache on air circulation. Forcing approximately 65,000 cubic feet per minute of fresh air, chilled to about 20° F. or less at floor level, gives an idea of the heat generated by the arc lamps when you realize that the air escaping through the exhaust hatches in the ceiling has increased in temperature from 20° to 70° F. Bodily discomfort has been a primary consideration among the operating

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factors of the Ice House during the past four years. Paramount's Mr. A. C. Zoulis was insistent that during the prolonged stay of Paramount's "Untamed," comfort of the cast and technical crew was a major condition. This was amply provided for by construction of a large vestibule surrounding the doors of the Ice House, maintained at an intermediate temperature, which reduces to a large degree the bodily shock of temperature change, that on many occasions would amount to a 70° change in temperature. Again, the serving of hot chocolate, soup, and coffee throughout the working day compensated to a large degree the effects of an arctic temperature on workers accustomed to a tropical climate.

In the four year period of operation studio prop departments have used in the Ice House nearly every form of wild life that would be found in a cold climate, and the bewilderment of these animals and their subsequent enjoyment of the snow and cold climatic conditions has been the cause of much merriment among the crews.

Of course, snow fights and snow balling have not been neglected by the various personnel, and at times the barrage of snow balls equals the well-known European "Blitzkreig."

The activities of the Ice House Technical Department have not been confied to the low-temperature stage proper, but have been in constant call to one or the other lots of the studios. Thousands of tons of ice have been used on the various studio lots, where practical snow greatly out-distances the older substitutes. Of course, it is advisable to continue using substitute snow on roof tops and window ledges or places where the problem of drip may be encountered, but where action is to take place, the using of a layer of practical snow is far superior to any of the substitutes. Outdoor activities of the Ice House Equipment have been used with great success in pictures such as Paramount's "Spawn of the North," where the glacier ice breakaways were done in miniature and even though the miniature set was approximately 32 feet high, the falling ice would actually have swamped a full sized boat through sheer weight. Other outdoor activities requiring snow have taken advantage of these unique services and have used practical snow successfully on ski jumps and for contrast exploitation stunts of our local Chamber of Commerce, that delights in advertising bathing beauties enjoying a shivery frolic in snow amid waving palm trees.

In a summing up of the four-year period of the Ice House, and adjustant activities, the department handling the snow business, under the leadership of Nels H. Rosberg, has enjoyed an active and varied existence with a closer understanding of the climatic problems of the studios.

They say---

By RELLA

● Bill Skall's assignment as first cameraman on "Billy the Kid," MGM Production, coincides with Skall's perennial youthfulness. Joining him are Charlie Boyle and Len Smith, first cameramen; Charles Salerno, second cameraman; Paul Hill and Duke Callahan, Technicolor technicians; Al Scheving, assistant; Al Bayliss, loader and Milton Brown, still cameraman.

● Jack McHenry, Universal newsreeler, now the husband of charming Anita Jenkins.

● Mack Stengler working over at Disney's, following Bert Glennon who completed the assignment there.

● Hal Mohr on Jimmie Roosevelt's "Pot of Gold." To be specific, he is shooting the picture.

● Roy Seawright and Bill Draper putting their heads together at Hal Roach Studios to give us another of those enjoyable "Topper" pictures.

● Plaudits to cameraman Eddie Linden for giving so many of the boys a break on Korda's picture, "Lady Hamilton." Eddie tried to make it a cheerful Christmas for many of the brothers.

● In from location on "The Outlaw," Hughes Production, are Lucien Ballard, Harry Newman, Harry Zech, first cameramen; Lloyd Ahern, Arthur Lane, Jeff Gibbons, William Knott, second cameramen; Al Smalley, T. F. Jackson, Paul Cable, Roy Ivey and Jimmie Murray, assistants.

● Walter Bader, of whom very little is heard these days, is in charge of optical printing at National Screen Service.

● Jack Thomas also is busily engaged optical printing at Universal.

● President Gus Peterson on the go shooting "Picture People" for Pathe Productions, following his recent engagement with Jam Handy.

● John Stumar back in harness at Columbia Studio.

● John Burton of Schlesinger Studios, member of Local 659, is general supervisor of all productions at that studio. Burton has contributed much in the way of special title work to various major productions.

● James Buchanan, Local 644, is now a full fledged major in the United States Signal Corps.

● Harry Smith, Local 644, en route to South America for Pathe Productions.

● Sam Greenwald, news reeler, in Mexico City shooting the Mexican president—with camera.

● Ray Fernstrom busy as a bee writing, supervising and photographing ad films, as he calls them.

● Word from England through the Journal of the Cine Technicians states that Leslie Rowson is in the R.A.F.

● Harry Perry on his way to Haiti shooting backgrounds for Paramount.

● John Nicholaus assistant cameraman, is the son of John Nicholaus, head of the Lab Dept. at MGM. The latter's keen judgment of photography is acknowledged by all cameramen.

● Camera Department at Columbia is proud of the fact that Joe Walker and Fayte Brown have been mentioned for the best photography on "Arizona." Harry Hallenberger who also contributed much to the photography on that picture comes in for praise, although he is better known as a Paramount man.

● Jack Anderson, assistant cameraman, who has not aged a day in the last ten years, still performs as male lead in Columbia Cubs Productions.

● As the year draws to a close and we enter 1941, it is the wish and hope of all members of Local 659 that they will embark on a constructive program to assist and aid those who have been unfortunate in getting their due share of the work. We realize that being a cameraman surrounds itself with certain trials and tribulations over which there is no control. At the same time, when all join hands not only to guide a boat, but share room for those who are uncomfortably crowded, it makes for better feeling and understanding amongst those who are engaged in the same vocational enterprise. Perhaps the solution may not be found over night, but the willingness and urge of those who can help will symbolize a spirit of fellowship. The problem is: What can you do for your brother member and fellow-man; thus not to become estranged from the unfortunate. It is with Faith, Hope and Charity that good can be done for so many. We believe that members of Local 659 will intelligently contribute to and support such a program and we know that 1941 will have this report to make to the year of 1942.

S.M.P.E. Pacific Coast Election

J. G. Frayne has been elected chairman of the Pacific Coast Section of the Society of Motion Picture Engineers for 1941, assuming office January 1st. He succeeds Loren Ryder, who becomes member of the board of governors of the national SMPE group for 1941-42. C. W. Handley assumes post of secretary-treasurer of the local section, with F. J. Durst, Barton Kreuzer and S. P. Solow being elected to section board of managers for the next two years.

Television

(Continued from page 25)

nical phrase employed to indicate that the apparatus of vision has sacrificed some of its reserve capacity for seeing (suffered a decline in activity) as a result of previous activity. It must be carefully distinguished from a physical fatigue. In the latter, consciousness of the fatigue is general, whereas in visual fatigue consciousness of the fatigue is rare and then generally exists due to an over-exercise of the function of vision. At such stages, it can be serious enough to cause injury to sight depending on the nature and cause.

Motion picture and television observation need not be more fatiguing in a visual sense than many other visual tasks, but their seriousness is due to the prolonged activity involved as well as the surrounding conditions. The accompanying visual fatigue is said to be largely retinal and not muscular. The "redeeming" feature of the task when viewing motion pictures, according to one authority, lies in the use of "far vision." In home television, the vision is not so "far" but fortunately, it is not quite as "near" as when reading a book. In this regard, more information is needed to determine the effect of television observation on visual fatigue due to the distance function alone.

The greatest difference in viewing television and motion pictures is in this respect, that most screens in theaters can be assumed to be at a distance of 20 feet or more from the viewer, which for all practical purposes can be considered at infinity, at which point the normal eye is at rest. Whereas, with television, the object can be assumed to be from 6 to 8 feet from the eye, entailing an accommodative action and thus necessitating muscular accomplishments for neither near nor far vision.

Visual fatigue has been found to be occasioned by high degrees of contrast either between adjacent areas in the field of vision (even including the border of the screen) or in time as would be the case due to flicker phenomena, the need to see finer detail, and illumination levels below those associated with "easiest seeing." It is said that the apparatus of vision attempts to compensate for any decreased efficiency and this effort is translated into visual fatigue or even pain and injury to the sight.

One authority states that the present theater levels are far too low for "easiest seeing." If this is correct, television, which generally operates with an average screen brightness below that of large theaters, should devise and make experiments on the visual fatigue involved.

While the level of theater screen brightness is probably actually below that for "easiest seeing," it is probable that the decreased need for discernment of fine detail—the fact that speech and action tell much of the story—reduces the burden, so that even at the present average level of screen brightness the work involved is not in excess in that for other every-day visual tasks of equal duration. Probably the same is true of television to a lesser degree due to other effects. Experimental evidence would be needed for confirmation. It would be complicated by the possible latitude and resolution of the medium.

The resolution of fine detail is limited by visual acuity, which is simply 1/angular size. Greater brightness is required for greater visual acuity. Maximum sensitivity is reached only when the visual angle is not less than about 4 minutes. Continued use of the eyes to discern detail near the limit of visual acuity or near the limit of the Weber-Fechner fraction for brightness difference results in visual fatigue.

Screen surroundings which are less than about 1/100 of the field brightness have been proved to be detrimental, causing visual fatigue. In theaters, a border brightness between 0.05 and 0.2 foot-lambert was most frequently chosen when the observer was permitted to choose this level. In the same tests the screen brilliancy chosen was that corresponding to the order of 30 foot-lamberts if the projector had been operated without film. This would correspond under picture conditions with the 10 foot-lambert level generally given for close desk work.

Flicker was mentioned as a prominent cause of visual fatigue. Intermittency of illumination was found not to be a serious cause of visual fatigue provided it was not discernible to the vision as "flicker." Some evidence was found that flicker due to frame frequency is still a factor in visual fatigue in the motion picture theater. However, other causes of flicker may be even more serious.

One has only to look across the beam from the projector in a darkened theater to see that a series of "shocks" are presented to the eye due to the normal shifting of scenes and motion of objects in each scene. Television and the motion picture may, by careful choice, reduce this considerably but it can hardly eliminate it. It seems certain that as the screen brightness increases, more experimental work could very well be done on visual fatigue. The case of seeing and the effect of flicker may have mutually opposite trends under the influence of increased screen brightness but whether or not visual fatigue could be reduced would seem to require experimental verification.

Furthermore, it would seem desirable, if possible, to devise experiments designed to reveal the portion of visual fatigue in any given motion picture or television performance which may be assessed solely to frame frequency.

(To be concluded next month)

Intricate Electrical Eqpt.

One of the most unusual sets ever constructed for a motion picture has been completed at Universal for use in the studio's new "horror" melodrama, "The Mysterious Doctor R."

Elaborate and complete, the set represents a modern electrical research laboratry in which Lionel Atwill, as a half-mad scientist, subjects Lon Chaney, Jr., to experiments attempting to prove a theory that human beings can be controlled by electricity.

Replicas of such intricate equipment as an electrostat table, high tension insulators, an atomic bombarder, a control cabinet and an oudin coil were cnstructed in the studio's technical department under the supervision of Eric Wybrow, noted electrical expert.

Laboratory sequences are calculated to be dramatic high spots of "The Mysterious Doctor R," which is being filmed under the direction of George Waggner.

Lillian Russell Collection

A large mass of original material dealing with the life, romances and career of Lillian Russell, one of the immortals of the American theatre, soon will find its way into the archives of the Pittsburgh, Pennsylvania public library for future study by interested historians. The material was accumulated by Alice Faye, film star.

Included in the collection are numerous theatrical programs, original photographs, shoes worn by Miss Russell, one of her hats, a number of original photographs and a mass of newspaper and magazine clippings.

Miss Faye is now completing work in her latest starring vehicle. "Tin Pan Alley',' a musical cavalcade at 20th Century-Fox.

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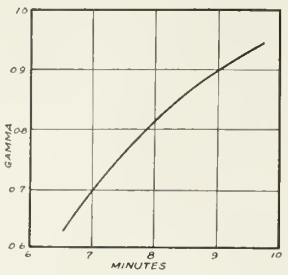
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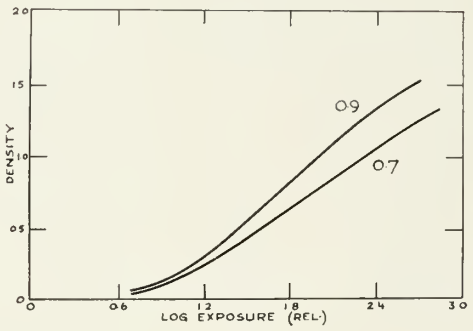
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23A	5.0	2¼
25A	10.0	3¼
29F	16.0	4
12	2.5	1¼
15G	3.2	1½
56	3.5	1¾
3N5	4.0	2
5N5	6.3	2½
25ND	1.8	1
50ND	3.1	1½
75ND	5.6	2½
100ND	10.0	3¼

INTERNATIONAL photographer

Vol. XIII **February, 1941** **No. 1**

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"TANYA" By William Mortensen

TRIBUTE TO THE MODEL

By WILLIAM MORTENSEN

THIS MONTH I want to pay a small tribute to the forgotten girl—the model who poses for our pictures—yours and mine. Seldom do we give her a thought after we have succeeded in getting a good print, but it is her hearty and self-effacing collaboration that makes our pictures possible.

In the Elizabethan era, tolerant and progressive though it was in many respects, women were not permitted to appear on the stage. It was not until the free and easy times following the Restoration that women were allowed to tread the boards of the English theatre. These courageous pioneers had to contend against intense social projudice. The ladies of the theatre, in fact, were rated only a little higher than the ladies of the evening. It is only within recent memory that the last of this ancient prejudice against "actresses" has evaporated.

A similar prejudice has been held against those girls who pose for artists. This feeling has been particularly in evidence against those who pose in the nude. In Victorian times, of course, when virtue was practically inseparable from clothes, the prejudice was at its strongest. Some people, unfortunately, have not yet rid themselves of it, and are still convinced that a girl who poses thus is not quite "nice."

Photographers, being more ignorant of artistic tradition than they should be, sometimes make this mistake. A few foolish photographers of my acquaintance have gained in wisdom, I am glad to say, hy having their ears resoundingly slapped down when they assumed that a model doffed her dignity along with her clothes.

A model who poses in the nudc offers much, and she is justly proud of it. None but a boor or an utter ignoramus would do anything to blemish this fine instinctive pride. Pride in the body has been characteristic of the best and most productive civilizations, so these girls bear themselves likc the aristocrats they are.

I have rather specialized in the representation of the nude, and, in the last twenty years, I have honestly lost count of the scores who have posed for me. But, in all the lot, I have never encountered anything cheap or vulgar. These girls have, with the fewest exceptions, been good sports, eager and cooperative in the tasks assigned them, taking it uncomplainingly on the chin when the lights were hot and the hours long. Their greatest joy was pride in a joh well done. And they should be proud: for they bring us the most vital fruit of good breeding, good health, good living, good manners and good sense.

lighting "TOBACCO ROAD"

NO MATTER what inspired mood may have helped a writer turn out a perfect script and what understanding a director may put into the handling of the players and the scenes, it is still a long way from being a perfect picture unless the work of the cameraman matches their contributions.

That this three-way artistic combination has been reached is the opinion of those at 20th Century-Fox who have seen the first cut of "Tobacco Road." Nunnally Johnson, who wrote the script and acted as associate producer, and John Ford, who directed it, both agree that the camera work of Arthur Miller had a large share in giving complete realization to the ideas they were trying to portray.

While the bouquets are being tossed back and forth amongst this triumvirate, Arthur Miller now confesses that he had little sleep during the entire production. Night after night he would lie in bed worrying and planning the next day's shots.

"Everything in the picture was entirely unorthodox from the cameraman's point of view," Miller said. "The character work in this picture demanded a new set of technical principles which we had to work out as we went along.

"And before we go any further, I want to credit John Ford with a great deal of the success we had with the camera in the filming of 'Tobacco Road.' Any camreaman who has worked with Ford can tell you that his technical knowledge of the camera's capabilities and his imagination makes the cinematographer's job one of vitally interesting teamwork.

"When I say that our methods were unorthodox, I can mention, for instance, John Ford's idea of reversing the usual procedure in utilizing outdoor light.

"There were sequences in the picture which were in a low mood, requiring a low key lighting. For those scenes, Ford picked the dullest, cloudiest days on which to shoot outside. There were many times when we worked indoors while the sun was shining the brightest. Ahout three o'clock in the afternoon when clouds would begin to cover the sun and things turned gray, Ford would rush us off the set and spend the rest of the afternoon getting outdoor shots.

"For one sequence showing Charley Grapewin and Elizabeth Patterson as Jeeter and Ada Lester on their march to the poor farm we had a very painstaking camera job, because bits of the sequence were filmed here and there, indoors and outdoors, over a period of time.

"Mood and character had to be kept consistent. This was one of the low key scquences where we picked clouds and gray weather whenever we could get them. Then there were some of the shots that had to be done on an indoor set that had to be lighted to match the almost lightless outdoors."

One of the biggest helps in the filming of "Tohacco Road," Miller admitted, was the new camera recently developed and put into operation by 20th Century-Fox. It was the use of this camrea that allowed excellent results under low light conditions. Its shutter opening of 220 degrees gave it a latitude that was not possihle with the earlier camera. Its coated lenses allowed shooting directly into sunsets without any resulting flares, and they could have shot into sunrises as well if John Ford ever got into the habit of starting work that early in the morning.

"Realism was the principal aim in this picture," Arthur Miller said. "Artificiality of every kind had to be avoided, particularly in lighting and camera setups.

"Not one single closeup, as we generally know it, was made for this picture. There were no big heads, and the closest shots made throughout the entire production were from the waist up.

"There was nó fancy movement of the camera, and, as a matter of fact, the camera rarely moved throughout production. Dolly shots were conspicuously absent and there was an absolute minimum of panning.

"In very few spots where it was absolutely necessary in the telling of the story to follow the action did the camera move with it. On the whole, the camera setups were all stationary.

"The entire picture, according to John Ford's conception and execution, consists



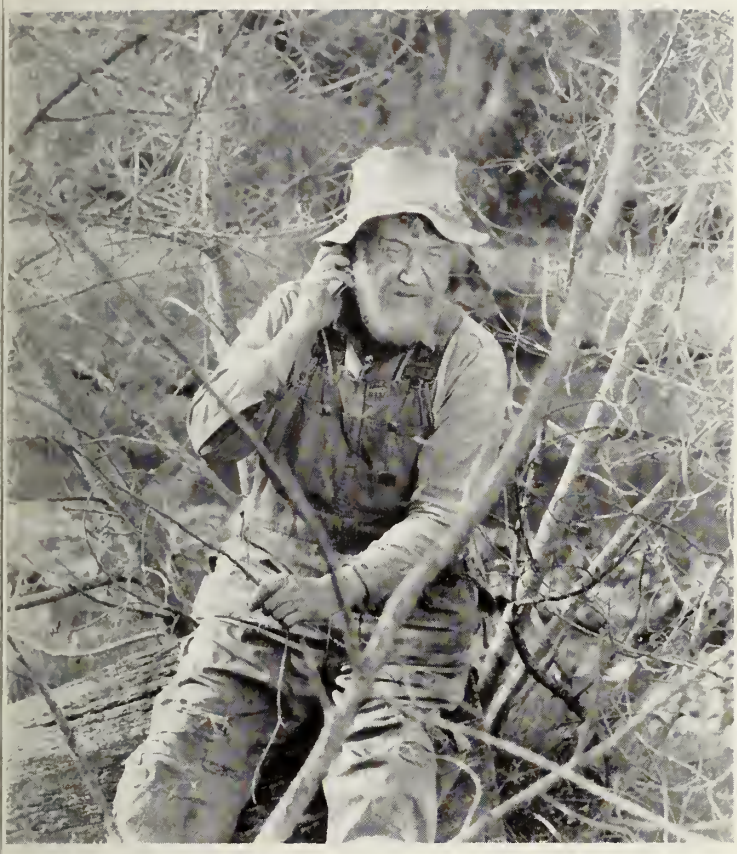






Ward Bond as Lov Bensey
Gene Tierney as Ellie May

Slim Summerville as Henry Peabody
Zeffie Tilbury as Grandma Lester









Charley Grapewin as Jeeter Lester
Elizabeth Patterson as Ada Lester

William Tracy as Dude Lester
Marjorie Rambeau as Sister Bessie



William Tracy as Dude Lester, Marjorie Rambeau as Sister Bessie and Slim Summerville as Henry Peabody in a scene of bucolic romance.



Charley Grapewin as Jeeter Lester and Ivar McFadden, an inmate of the poor farm, swap views over the fence.



The cast of principals of "Tobacco Road." Left to right: Ward Bond as Lov Bensey; Gene Tierney as Ellie May; Charley Grapewin as Jeeter Lester; Elizabeth Patterson as Ada Lester; William Tracy as Dude Lester; Zeffie Tilbury as Grandma Lester; Marjorie Rambeau as Sister Bessie; Slim Summerville as Henry Peabody.

of a series of impressions. Each shot was framed, and the action and movement took place within that frame. The first shot of the march to the poor farm, which I mentioned before, consisted of the two figures, a tree, a fence and the horizon. All inanimate objects within the frame are as important in the creation of mood and character as the actors themselves and are used with telling effect."

Lighting went through revolutionary innovations in the filming of "Tobacco Road." The preponderent use of shade was one of the things that caused Arthur Miller many sleepless nights because it is very easy to get bad photography with too much shade. Keeping it from going beyond bounds at any time was Miller's main problem.

"But even a bad photographer can't get a bad picture when he works with John Ford," Miller said. "He is the best director for any cameraman to work with because he always knows what he wants and how to get it.

"What interested me more than anything else in filming 'Tobacco Road' was the use of one source of light only and the minus of backlight. There could be no artificiality with this system, and the results as we viewed them in the daily rushes were vitally interesting.

"Those cases where we did have backlight were in outdoor shots where the main characters and the action were in the foreground shade and the background was in the natural sunlight. But this, like the use of one source of light, added to the naturalness and realism.

"Absence of makeup on all of the characters, except Marjorie Rambeau, who played Sister Bessie, was a great factor in attaining camera naturalness."

It was a very minimum of makeup which Miss Rambeau was allowed to use, and it was checked carefully every morning by Miller and his second cameraman, Joe La Shelle. For the first two or three weeks on the picture, Miss Rambeau couldn't get out of the habit of using lip rouge with the makeup. Miller and La Shelle had to remind her every morning with the admonition of, "No lips, Miss Rambeau," to wipe it off before she began work.

Not only did the otherwise glamorous Gene Tierney use no makeup in "Tobacco Road," but her face and limbs were treated every day to a generous coat of dirt. First the skin was rubbed with oil in order to provide a base for the dirt to stick to, then the dirt was rubbed in until it was well imbedded in the pores.

The famous movie boner of having a backwoods girl with perfectly coiffed hair was scrupulously avoided when John Ford ordered Gene Tierney not to wash or dress her hair in any manner throughout the entire period of production. It was kept stringy and unkempt at all times.

William Tracy, who played the role of Dude Lester, added another touch of realism by sacrificing some expensive bridgework and exposing the gap of a missing front tooth.

"With realism extending into every department in the making of the picture, the total effect could not have been achieved if the camera had not also done its utmost to match this effect with its work," Miller said.

"We continually took advantage of weather to create mood. So far I have mentioned mostly the filming of the low moods in the picture, but there are many comedy sequences. For these, of course, we took advantage of bright sunlight in our outdoor shots.

"It is John Ford's practice once he has started a sequence to follow that sequence through to completion in script order. However, changes in weather many times made him suddenly switch to other scenes when sun or the absence of it made conditions just right for certain lighting moods that he wanted to get.

"On our main location at Sherwood Forest we had two important sets. One of these was Jeeter Lester's cabin and farm, and the other was a decrepit old mansion which had seen its last good days during the Civil War period and was now inhabited by sharecroppers.

"These two sets were strategically situated in relation to the course of the sun and the shadows it cast. The shooting schedule was worked out so that we always shot the cabin in the morning and the mansion in the afternoon, at which times the light conditions were ideal for these sets.

"An exact duplicate of the cabin and farm was also built on Stage 5 at the studio. On this studio set we filmed our night shots, rain scenes and a few of the day scenes which we could not get on location on account of rain.

"On the outdoor set, the distant background consisted of trees and low hills. To match this on the studio set we had a foreground fringe of trees and then filled in the background with acid smoke which gave the illusion of distance."

Unlike the play by Jack Kirkland, the picturization of "Tobacco Road" took in many sets, utilizing action and backgrounds which were in the original novel by Erskine Caldwell. Scenarized by Nunnally Johnson with the accent on comedy and entertainment, Director John Ford nevertheless utilized every mood, from the very high to the very low, in telling this story.

This was the pattern which Arthur Miller and his camera had to follow. What degree of perfection they have attained will be determined by that ultimate critic of all motion pictures—the man who puts four bits on the line at the box office.



Looking over the setup for a street scene for "Tobacco Road" on the 20th Century Fox back lot. Seated in the chair is Director John Ford talking it over with bearded Charley Grapewin in the role of Jeeter Lester. In the center background, with arms folded, is Arthur Miller, Director of Photography. Paul Garnett is shown in extreme left and next to him, wearing sweater, is Paul Lockwood. The only thing visible of Joe La Schelle is the top of his head behind the camera.

NEGATIVE EXPOSURE

By CAPTAIN DON NORWOOD, U. S. A., Ret'd.

ONE HUNDRED and fifty years ago, in Southern California, the old Mission Padres associated distance to be traveled in a day with the rate of speed at which a mule traveled. The missions located roughly 25 to 30 miles apart stand as evidence of this.

In a later period when there were roads of a sort, and horses and coaches, standards of the distance to be traveled in a day were changed and extended. Today, an automobile will cover five or six hundred miles easily in a day, while an airplane will cross the continent in the same length of time. Again the standards have changed. Time moves on, and as it does, men's standards in various fields of activity change and progress. This is true in the photographic field of the standards set up for negative exposure.

Thirty years ago if a negative carried an image at all it was considered passable. The image might be very dense from overexposure, or very thin from underexposure. The laboratory people would try to doctor it up. It could be further juggled around when it came time to make a print. Anyway it got by somehow.

About seven years ago the advent of photoelectric brightness meters occurred. Brightness meters being those which measure the light reflected from a scene. These meters were a big factor in changing the standards of negative exposure. By the use of these meters it became possible to so expose negatives that the entire image density range of all normal scenes would lie on the straight line portion of a characteristic H. & D. curve. It was still necessary, of course, to adjust printing exposures to compensate for variations in negative image densities.

Now the time has come when it is possible to move on to still higher standards of negative exposure. This is made possible through the development of a new photoelectric meter known as a "Prevailing-Illumination" meter.

Negatives exposed under the control of this meter are so precise that all may be printed within a very narrow range of printing exposures. Assuming, of course, that processing is maintained at a high level of constancy.

The principle on which this new meter operates will be described. Let us first consider a photographic scene. To a photographer, a photographic scene may be defined as follows: "A complex array of assorted brightness, emanating from various sized areas, located at varying distances from the camera; further complicated by the effects of color."

Consideration of this definition will lead one to realize what a tough proposition a brightness meter is up against. Of all those brightnesses in a scene, which should be measured? How much weight should be given to each measurement when balancing them off to arrive at a significant figure for the exposure? What about contrast as it affects exposure? What about corrections for color? What about corrections for distance? Haze? Backlighting?

The problem is a serious one indeed. A careful and extended study was made in order to discover if it could not be simplified in some way. This study brought out the fact that all the brightnesses in any given scene have one factor in common. This common factor is the prevailing-illumination. The prevailing-illumination can be measured by a suitably designed instrument, and the value so obtained can be used for exposure control.

The reason for the above is as follows: Any photo subject brightness is a product of two factors, namely, illumination, and its own reflectance. Reflectances remain substantially constant. Prevailing-illuminations show wide variation.

The range of diffuse reflectances encountered in photographic subjects may extend from that exhibited by black velvet at two per cent, up to that of white velvet at eighty per cent. It will be noted that these values of two per cent and eighty per cent cover a range of 1-40. This range of 1-40 fits very easily into the latitude of negative emulsions which is usually about 1-125.

Since the range of reflectance can be taken care of by the film latitude, it then remains only to measure the variable, the prevailing-illumination. With this done the lens diaphragm and shutter time may be properly set to compensate for the variable. In this manner the group of reflectances to be found in a scene will always come through onto the film with the same range of values.

Consider some given scene. In one studio it may be lighted up to a level of 350-foot candles. In another studio it may be lighted up to a level of only 50 foot candles. We know that the release prints carrying this scene may be practically indistinguishable one from the other. In addition, the two negatives carrying the scene may be practically identical as regards densities.

The range of reflectances remained the same of course for both takes.. On one case we had a high level of illumination, which was pulled down by the camera exposure controls. In the other case a low level of illumination, of which a much larger percentage was passed by the camera exposure controls.

The point which it is desired to emphasize, however, is that in order to get perfect negatives for both takes, the factor which logically should be measured is the only one which shows variation, that is, the prevailing-illumination. The range of reflectance constants will be taken care of by the emulsion latitude. When prevailing-illumination is measured, and then compensated for by the camera exposure controls, it will be found that any given subject reflectance will always show up with the same density in the negative.

Consider a face in close-up for example. Flesh tones have a reflectance of between 30 and 40 per cent. A girl's face may show a reflectance of 40 per cent. In a print this should always show up at about the same given density. When the method of negative exposure control described herein is used the face will always show up with a constant density in negatives. Piecing these two facts together will show why it is possible to print all negatives with a fixed printing exposure, or within a very narrow range of printing exposures.

It is interesting to examine prevailing-illumination as such. All prevailing-illuminations may be classified into three types. Examples of each type may be visualized if we consider a white stucco garden wall with sunlight shining on it through the branches of a tree.

Type 1 Prevailing-Illumination. See Figure 1. In this type the subject and scene is for the most part in direct illumination from the primary light source. The wall has only a few leaf and branch shadows on it. In this case the prevailing-illumination is the clear sunlight, and that is what should be measured for exposure determination.

Type 2 Prevailing-Illuminating. See Figure 2. In this type shadow area fills most of the scene. Only a few shafts of direct sunlight strike through onto the wall. Or there might be none. In this type the prevailing-illumination is that existing in the shade. Its value should be measured at the position of the principal subject.

Type 3 Prevailing-Illumination. See Figure 3. In this type the sunlight and shadow portions of the wall are about equal in area and importance. The principal subject is illuminated by patches of both sunlight and shadow. In this case the prevailing-illumination is a mean between the illumination value existing in the shadows and that existing in the direct light. For exposure determination both should be measured, and the mean value determined. It might be further noted here that this Type 3 Prevailing-Illumination is not con-



Fig. 1



Fig. 2



Fig. 3



Fig. 4

ducive to attractive pictures. It is a type of illumination that is avoided by good photographers as being lacking in balance. Types 1 and 2 are much to be preferred for all normal pictures.

Although the typical scenes described are outdoor scenes, the same principles apply to interiors. For interiors the cinematographer will achieve a balanced illumination by arrangement of his lighting units. Then when a satisfactory lighting arrangement has been achieved, the prevailing illumination may be measured at the center of interest. The reading so obtained will be used for exposure control.

In this matter of defining prevailing-illumination consider how the human eye functions when viewing a scene. The eye has an automatic diaphragm. Under high levels of illumination this diaphragm stops away down. Under low levels it opens up. When viewing any given scene it recognizes the level of prevailing-illumination, and automatically adjusts itself in accordance therewith.

We can very well follow the example of the eye in this matter, because after all the ultimate product of all photographic effort is something that is going to be viewed by the eye.

In order to set the camera controls properly it is necessary to have some means of accurately determining the level of prevailing-illumination. With an instrument at hand which will accomplish this purpose it is possible to set the camera controls to correspond to the natural automatic action of the eyes.

The meter used for measuring the value of prevailing-illumination is customarily used at the position of the subject. See Figure 4. It is pointed at the camera lens. In this position it acts as a miniature subject. All light which would be effective in illuminating the subject for photographic purposes will be accepted by the meter, integrated and evaluated. Since photo subjects are usually three dimensional objects, and illumination usually comes from a three dimensional space, it follows that the light pick-up surface of the meter must be three-dimensional in design.

It has been found that a hemi-spherical surface is best suited to this purpose. See Figure 5. When properly oriented it presents surfaces in planes at all angles that are visible from the camera position. These surfaces correspond to all surfaces of the subject which will be illuminated for the camera's benefit.

For outdoor pictures where considerable distances are involved it is not necessary to use the meter strictly at the subject's position. Usually the illumination under such conditions is substantially uniform over considerable areas. Under these conditions the meter may be used at any position where the illumination is comparable to that on the subject, right beside the camera if desired. It is only necessary to see that the meter is properly oriented with respect to subject and camera.

The meter is universal in use, functioning equally well indoors or out, under any type of illumination. Since the principle of operation of the meter is sound, the same method of use is employed at all levels of illumination, high or low. The meter will function in exactly the same manner under very low levels of artificial illumination on interiors, and under brightest sunlight outdoors.

One model of this meter was made up in triple range. The scale units were selected to tie in with the Weston system. The meter then read for full scale, 0-1000, 0-100, and 0-10. When using the 0-10 scale it is possible to read down to .05 unit. At the other extreme of illumination, the meter when pointed directly at the sun at noon on a summer day gives a needle deflection of 450.

Since this type of meter measures illumination, rather than light reflected from the photo subject, it is unaffected by such matters as subject contrast, relative size of light and dark areas in a scene, chromatic variations in a scene, distance from subject, effect of haze, back lights, etc. It is excellent for black and white films and ideal for natural color, due to its high precision qualities.

Since illumination is always stronger than light reflected from the subject the meter has more light to work with, and in consequence has very great sensitivity. It is easily possible to get significant readings with the meter in a living room of a home, where the only illumination is the daylight filtering in through the windows. This feature of this type of meter makes it well adapted for use in connection with the new highly sensitive emulsions which are now available.

It is believed that the matter of placing



Fig. 5



"Sentinels of the Dawn" by Ira Hoke.
From Howard Hughes Production "The Outlaw."

(Eastman Infra Red, 25A filter)

negative exposure control on a precision basis will be a double benefit to the cinematographer. It will assure the finest possible negative quality for every scene exposed. And it will allow the cinematographer to release his attention from the exposure problem, and exercise to the fullest extent his unique talent as a master artist dealing in the medium of cinematography.

Important Notice

For our National Defense Program, THE UNITED STATES ARMY, will require men experienced in still and sound motion picture production for service in the event of emergency.

The basic enlisted organization of the G. H. Q. Signal Corps Photographic Unit is now in process of formation. We want to create a list of qualified men who will simply express their willingness to serve in this motion picture organization in case of complete mobilization of the United States Army.

Those who have reached their 18th birthday and those who have not yet reached their 45th birthday will be eligible to join this organization.

This presents an opportunity for men in the motion picture industry to serve, in emergency, in the branch for which they are best qualified.

Those interested may register by writing the RESEARCH COUNCIL, Academy of Motion Picture Arts and Sciences, 1217 Taft Bldg., Hollywood, California. Give complete information on age, education, present position, studio with which connected, number of years in motion picture industry, etc.

We will require several men of the following classifications to complete the tentative organization: Animation and title supervisors; camera repair supervisors (motion picture and still); cameramen (motion picture and still) chemists (motion picture and still laboratory; clerks, cooks; editors (picture and sound) electricians (motion picture); laboratory equipment engineers; laboratory supervisors (motion picture and still) machinists; motion picture engineers; motion picture camera department supervisors; negative cutters and assemblers, photographers (copy and printer) developers, projectionists; sound recording and re-recording engineers; supervisors; mixers; maintenance men, boom operators; recording and re-recording machine operators.

YOU WILL NOT BE REQUIRED TO FORMALLY ENLIST OR ENROLL AT THIS TIME. This survey is for the purpose of obtaining information on qualified motion picture men willing to serve in time of national emergency.

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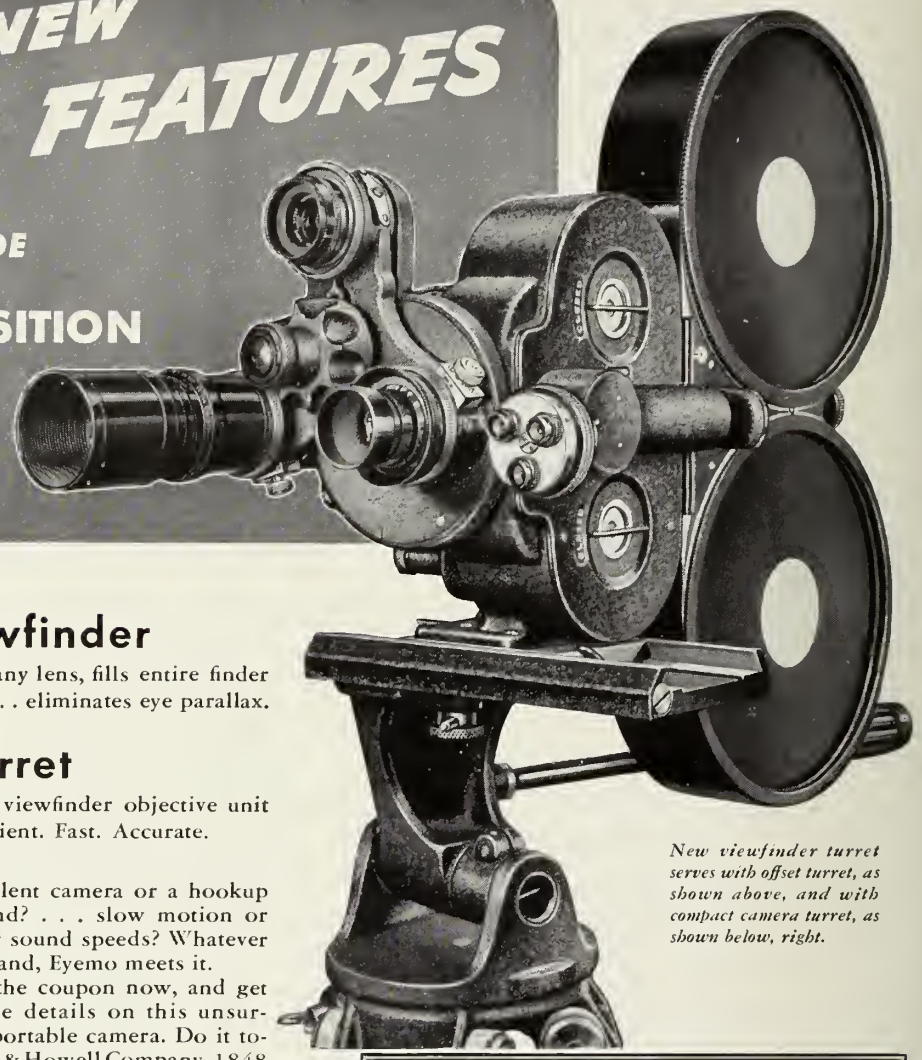
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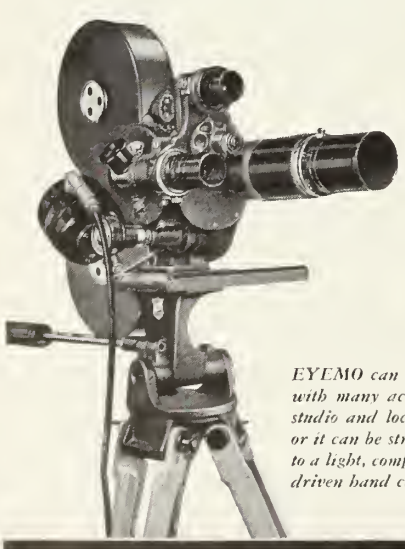
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"CHEERS FOR MISS BISHOP"

By **WILLIAM WALLACE**

The stills of Martha Scott as Miss Bishop, shown on pages 14 and 15, are evidence of the cooperation that existed between the publicity director, the still cameraman and the make-up artist.

In running these pictures of Martha Scott, the editor offers the prediction that she is the greatest exponent of histrionic art that Hollywood has found in the last five years. She is the person who would be most comparable to Helen Hayes and eventually will be accorded such status by the stage and screen of this country.

(EDITOR'S NOTE)

RICHARD A. ROWLAND'S production, "Cheers for Miss Bishop," is perhaps the most outstanding example of a perfect welding of the art of photography and the art of make-up.

For the finished work of art in the welding of these two essentials considerable credit goes to the director of photography, Hal Mohr, and to the make-up director, Don Cash.

As one sees this picture unreel and witnesses the gradual aging of the players as the story progresses one cannot but be strikingly impressed by the advances that have been made in both these arts in the last few years.

These stills of Martha Scott, taken during the production of the picture by the author, exemplifies the task that was ahead of all concerned when Producer Rowland set out to film a story which called for his characters to age gradually in the story over a period of sixty years.

So natural are each of the characters during the transition that it is not until one leaves the theatre that he is conscious of the illusion that has been wrought. Not only are those in the profession singing the praises of the fine artistic photography and make-up manifest in the picture, but the laymen who have seen the film are finding the fine work a subject for enthusiastic praise. This itself is truly unusual for the average theatregoer seems generally to be indifferent to the artistic and technical efforts that go into the making of a film production.

In photographing these stills of Miss Scott, and the same was true of the stills of William Gargan and others in the cast, the still man had to do a right about face.

Instead of working for those so-called beautiful effects in portraiture from the standpoint of lighting and composition, I had to do just the opposite. As Miss Bishop aged in the picture I had to work for reality, flattening the lighting to emphasize the wrinkles that the make-up produced but which in ordinary photography one would try to hide.

Here was one of the cases where the stillman had to keep the retoucher under control.

Before the picture started Murphy McHenry, publicity director, and I had numerous conversations as to the value of depicting the aging character at the expense of quality in portraiture, and we agreed as to the importance of adhering to this principle.

After working on seven pictures with McHenry as publicity director, I realize and appreciate what the cooperation of the publicity director means to the still cameraman. He was always willing to listen to my problems with the utmost understanding and his help meant a great deal in enabling me to produce the desired results.

"BATTLE OF SEATTLE"

As a part of one of the first demonstrations of West Coast metropolitan air raid defenses the "Battle of Seattle" recently took place in which Battery "D," 205th Coast Artillery (A. A.) set up the Army's most modern anti-aircraft guns in downtown Seattle, while in another part of the city citizens tried out the West Coast's first air raid shelter. It was a realistic show, with attack planes diving on troops, warning sirens wailing, and men, women and children dashing for the sandbagged bomb shelter.



Photo shows: Newsreel cameramen who covered the "Battle": Earl Nelson, Universal Newsreel (left) and C. L. Edwards, Paramount News (right) equipped with gas masks, film planes overhead as local citizens peer from Seattle's first air raid shelter. The shelter, conceived by Hilmer Benson (wearing white shirt), a Seattle merchant, is an old wine cellar, made of steel reinforced concrete and banked with sand bags. Benson believes his shelter would afford protection from anything but a direct hit, in the event of an attack.—*(Photo by Grant Macdonald, Wide World Photos.)*









Reading across the two pages, upper: Martha Scott as Ella Bishop at the age of eighteen; just entering college; thirty years old; dr









est in gasoline buggies at forty-nine; as the schoolmarm; at fifty-six; on to sixty-five; taking life leisurely at seventy-nine. *See page 13.*







Candid Photography

By Starre

Starre is a member of Local 659 who writes under a pseudonym. He will be glad to answer any correspondence on this subject.

(Editorial Note)

These pictures of Gregory Ratoff in action, ebullient with emotion, telling the actors how to play a scene while directing the picture, "Legacy," were presented to me for perusal and accompanied by a request that I define candid photography.

So much has been said on this subject that I hesitate to offer my opinion without feeling that someone will be prompted to say, "So what!" It is my humble suggestion that this person understand that opinions offered to constructively assist should never be frowned upon. If the result is only to arouse interest and conversational tones that may be heard in the next room, the objective base has been struck and the result is only a matter of time.

Some years ago it was unorthodox as well as an infringement on good taste to photograph anyone not properly dressed and posing in the conventional sitting or standing position. With the development of cameras and film, discovery was made that movement and speed could be visualized photographically. Following these innovations, if they may be called such, there came into being the miniature camera which enabled the photographer to dispense with the obvious in the way of discretion and take pictures whether or not they accorded with the subject's wishes. Yet cameras and pictures have not been completely controlling—publicity, fan mail and streamline effects modernized in every type and form to show people as they are, helped create a new photographic era. Though perhaps not the best example, but direct and unequivocal, comparison might be made with the nudist who helps destroy modesty, be it false or otherwise.

The ice having been broken with the help of such magazines as Life, Look, Pix, Click and many others, candid photography grew to tremendous proportions. The answer is obvious to me. Demand controls supply. The magazines succeeded in influencing people, other barriers gradually were destroyed. The vogue became stark realism: shoot people as they are, how they work, the way they really act, so we can see if

(Continued on Page 27)

Reading down: Scene from Columbia production, "Legacy"; Gregory Ratoff, director, issuing instructions and judging from his expression in the lower picture those instructions were carried out to his entire satisfaction.



Left to right: Talking it over; driving home the thought; discussing minute details; telling Warner Baxter what he wants; making the players warm up; through the finder. Shot with 4 by 5 Speed Graphic on Dupont Super-sensitive film.

VERY TOO HAPPY, PLEASE

Reprinted from San Francisco Chronicle, December 14, 1940

By STANTON DELAPLANE

IN A photographically correct scene and with a script rewritten to the tastes of the newsreel patrons, Captain Leland E. Hawkins received the highest decoration which the Japanese government gives an alien—the Fifth Class Order of the Rising Sun.

Last year Captain Hawkins' tanker *Associated* picked up 209 people from the nitrate-fired *Bokuyo Maru*. Yesterday on the after sundeck of the *Asama Maru*, at Pier 11, he was given the red-and-white stripped ribbon and ruby medallion entitling him to attend special functions held for the Emperor.

The only witnesses were the press and three longshoremen who were busy arguing about the war.

As usual, the newsreels took charge.

Rearange Scene

Before the participants had arrived, the newsreel men were busy rearranging the scene and the speeches. A pair of tables and bundled American and Japanese flags were whisked away.

The fifth class was dropped from the title of the decoration.

"Gives it more class," explained the sound men.

The hand-rails were like ice and everyone was bundled to the ears except Captain Hawkins and Acting Consul General Ichiri Kawasaki. The Captain wore a blue suit and the Consul wore diplomatic morning coat and striped trousers. They lined up with ship's officers and consular attaches. Flashlights began to pop.

Spins Lenses

Kluver of the newsreels slipped on his head phones, spun his lenses and squinted through the eyepiece. The Consul looked around for confirmation and then said that he was happy to present this medal from the Emperor.

He took the medal from a black lacquered box and hung it in Captain Hawkins' buttonhole.

Captain Hawkins said to tell the Emperor he was grateful and anyone in his position would have done the same. The longshoremen began to argue on the deck just below the microphone.

"Is that your gang in the hold?" said one of them.

"What about it?" said the winchdriver.

"They're screwballs," said the longshoreman. "They load that mail like it was hay."

Yells "Quiet"

Kluver slipped off his headphones and yelled "Quiet!"

"Let's try it again," he said. "Turn toward me when you say, 'and I feel anyone in my position and so and so'."

"I'm cold," said Captain Hawkins. The Japanese all smiled politely.

"Please give my thanks to the Emperor and I feel"—the medal fell off his coat. The Captain juggled it back into his buttonhole and continued—"I feel that anyone in my place would have done the same."

"You hesitated," said Kluver.

"I know it," said the Captain. "The medal broke."

Two still cameramen came over, fishing in their bags for pliers. Kluver pulled out a pocket knife. They huddled until the Captain took the medal away from them and put it together. He put it in his buttonhole.



Captain Leland E. Hawkins, General Kawasaki and party aboard Asama Maru, where the Captain was presented with the Fifth Class Order of the Rising Sun, the highest decoration the Japanese Government gives an alien.

Photo by CLEM ALBERS

The cameras were moved up to a close-up and the Captain repeated his speech, adding this time that anyone would have done the same "where humanity is concerned."

The Japanese had quietly faded from the deck. There was some argument as to whether the ruby in the medal was real, the majority holding that it probably was.

"I'm cold," said the Captain.

"We really ought to tell what it's for," said Kluver. They set up the cameras again and someone asked the Captain how it happened.

"We were on a return trip from Manila," said the Captain, while the newsreel men squinted in their eyepieces. "We got an SOS from the *Bokuyo Maru*, and we were the nearest ship. When we arrived we found the lifeboats and floating wreckage and we took the people aboard."

"We ought to get in something about it exploded and burned to the water's edge, or something like that," said Kluver. "Let's do it over."

"It all depends on whether you want the truth or a story," said Captain Hawkins.

Grits Teeth

A still cameraman asked Kluver to hurry it up. "You're holding up a drink," he complained.

Under prodding, the Captain gritted his teeth and told the staring camera that he had come to the *Bokuyo Maru*, which had fire in the hold, and later exploded and burned to the water's edge, in response to an SOS. The part about his being the nearest ship was deleted.

It was suggested that everybody go below for a drink.

"I guess there's no law against it," said Captain Hawkins through chattering teeth. "Where's my medal? I'm cold!"

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They Say---

By RELLA

● Earl Nelson, Universal newsreeler who covers the Northwest territory, looking over Southern California and taking the missus around busy Hollywood.

● Willard Vanderveer, who collaborated with Joe Rucker on Byrd's first expedition to the South Pole, now with Pathe.

● Ray Rennahan, first cameraman; Irving Rosenberg, Bill Abbott, Don Anderson, second cameramen, and technicians Thad Brooks, John Gustafson and Nelson Cordes are in Mexico City covering a genuine bull fight for "Blood and Sand." Ironically, the matador originally scheduled to work in the picture was gored to death previous to the arrival of the crew.

● Reggie Lanning occupying the berth of first cameraman at Republic Studios.

● Dick Fryer, Jimmie Palmer, Perry Finnerman, Les Schorr, Leo Hughes and George Bourne were seen at Talisman Studios on the Feher musical shorts.

● Joe Rucker in town covering Tournament of Roses activity. By coincidence Rucker and Vanderveer have met for the first time in many years on the same job.

● Dan Fapp, second cameraman, Paramount, is the father of a newly arrived son whose aspirations undoubtedly will be to direct what dad photographs.

● Charles Chaplin is to be commended for his expression of good will to Local 659. Chaplin permitted Rollie Totheroh to use the words I.A.T.S.E. after his name on the program.

● Joe Citron, asistant cameraman at Columbia Studios, holds the degree of P.H.C. from the University of Southern California.

● Members of Local 659 are happy to know that stillman Sherman Clark's wife is recovering from a very severe operation.

● Cliff Shirpser surprised us by staying only five or six days at Cedars of Lebanon Hospital to recover from an appendix operation. Cliff says he will be looking for a long engagement to make up for the costly short one.

● Vic Milner at Universal Studios after seventeen years at Paramount. He will continue his fine record in his new home.

● Alfred Harvey back in Hollywood after working with Hurrell at his special studio in the Waldorf Astoria Hotel, New York City. Al tells us how brother Hurrell did Washington's political persons and the New York blue bloods in his inimitable style, creating nothing short of a sensation among New York's distinguished photographers. Strange to say, the work of an ace cameraman, as a rule, implies motion picture work; yet Hurrell's still camera work means more to many eastern lights than any of our ace cameramen in Hollywood. The camera enthusiast and movie fan only knows an ace cameraman as one who stands and directs the photography in Hollywood. Such is the difference of opinion on who's who in the photographic world.

● Dewey Wrigley and Lothrop Worth off for Havana, Cuba, and it is rumored that their destination is Lisbon, Portugal. Probably if the world were at peace members of Local 659 would really be traveling to all parts known and unknown.

● Manuel Corral, Schlesinger Studios, was an all-round athlete and baseball player at Loyola College.

● William Collins, asistant cameraman, reports for duty in the National Guard, State of California, shortly.

● Joe Novak, second cameraman, Republic Studios, is known to his friends as "Crooked Arm" because of his pitching prowess utilized sometime ago at Chattanooga Baseball Club and also in Flint, Michigan, playing ball.

● John McBernie, second cameraman, Republic, played in the outfield for the old Vernon Baseball Club, Los Angeles.

● Ray Flinsky is a linguist according to the Christmas card he sent out.

● It is not often that any single cameraman is paid tribute to, as this column writes news as only such. However, we cannot omit comment concerning Leon Shamroy, whose great interest seems to be in rendering help to those in Local 659. He is found constantly pondering and wondering how an individual organization can substantially aid the cameramen who find themselves without work. The spirit of Shamroy is admirable and we feel that his efforts eventually will result in some progressive plan.

● George Dye and Tommie Morris each have a pair of twins.

● Roy Kluver announces the release of a new star, William Conrad Kluver, produced by Mr. and Mrs. Roy Kluver.

● Jack Smith, first cameraman; Kymye Mead and Josiah Roberts, operators; Matt Klusnick, Ken Meade and Frank McDonald, assistants; and Frank Bjerring, still man, leaving for Sun Valley for MGM.

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PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,221,901—Camera Dolly. *Harry G. Cunningham*, assignor to Radio Keith Orpheum Corp. Appln. July 20, 1937. 10 claims.

A camera dolly having a substantially horizontal frame plate with a screw adjusted column in the center and a counterbalanced camera boom mounted on top of the column.

No. 2,221,917—Film Processing Apparatus. *Jesse M. Blaney*, assignor to Cinaudagraph Corp., Stamford, Conn. Appln. Feb. 21, 1938. 16 claims.

A machine for processing a continuous length of film, and making use of a series of loops of constant length, with a loop of variable length adapted to provide a constant tension.

No. 2,225,035—Projection Apparatus. *Alan A. Cook*, assignor to Bausch & Lomb Optical Company. Appln. Dec. 31, 1938. 2 claims.

A projector for projecting pictures to a screen below the projector, the latter having a horizontal lamphouse with a prism for deflecting the light downwardly.

No. 2,225,219—Filter and Sound Gate Mechanism. *Oscar J. Holmes*, Chicago, Ill. Appln. May 28, 1937. 9 claims.

A film driving means which is driven by a shaft to which is attached a flywheel which alone drives the shaft, the flywheel being coupled to the source of power in a manner that prevents the flywheel from exerting a driving reaction on the coupling.

No. 2,226,133—Speed Control Assembly. *Otto Wittel*, assignor to Eastman Kodak Co. Appln. Feb. 3, 1939. 13 claims.

A centrifugal governor adapted to operate at a plurality of predetermined speeds, with a brake member adapted to be moved to a position corresponding to the speed selected.

No. 2,226,339—Three-Color Film and Method of Making Same. *William T. Crespinel*, assignor to Cinecolor, Inc. Appln. Jan. 3, 1938. 9 claims.

A process for producing a colored photograph which includes: Producing two superimposed positive silver images on a photographic film; converting said images to a blue metallic salt capable of reacting with dimethylgloxime by treatment with solutions containing a soluble ferricyanide, a soluble ferric salt and a soluble nickel salt; and converting one of said images to a magenta color by treatment with a solution containing dimethylgloxime.

No. 2,226,638—Motion Picture Camera. *Walter Riedel*, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Dresden, Germany. Appln. Jan. 30, 1939. In Germany Feb. 11, 1938. 3 claims.

A motion picture camera having a pair of vertically aligned reels between which the film passes in a substantially straight line, with the lens located between the reels at their point of least separation.

No. 2,226,639 — Color Photography. *Karl Schinzel*, Czechoslovakia, assignor to Eastman Kodak Co. Appln. April 29, 1937. In Austria May 9, 1936. 5 claims.

A process of color photography making use of separate emulsions, the one nearest the support being a silver bromide and the one farthest away being a silver chloride, which is treated by a developer which acts on the chloride before a useful image is formed in the bromide.

No. 2,226,971—Motion Picture Camera. *Leo Goldhammer*, Germany, assignor to General Aniline & Film Corp. Appln. Dec. 10, 1938. In Germany December 11, 1937. 14 claims.

A motion picture camera having a normally closed gate which is opened when the cover of the camera is opened, the cover having spring plates which bear against the side of the film and push it into place as the cover is closed, the gate closing after the film is in place.

No. 2,227,201—Method for Producing and Exhibiting Sound Motion Pictures. *Oscar A. Ross*. New York, N. Y. Appln. April 17, 1936. 5 claims.

A method of producing foreign language sound films by recording the pictures and native tongue sequence on separate negatives, and then making a foreign language sound record of same length and word spacing, and combining the foreign language sequence and the picture into a single film.

No. 2,227,269—Fire Protection Device for Motion Picture Projectors. *Erwin May*, Wetzlar, Germany, assignor to Frank Dumur, Lausanne, Switzerland. Appln. June 3, 1939. In Germany June 10, 1938. 2 claims.

A safety device for motion picture projectors which closes the dowser before the motor is stopped, and starts the motor before the dowser is opened.

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The Chicago Cinema Club

THE CHICAGO CINEMA CLUB, organized in May of 1927, is typical of the numerous clubs and organizations of amateur cinema enthusiasts in the country. Every week on Thursday nights about one hundred and fifty men and women from all trades and professions get together in the Lighting Institute in Chicago's Civic Opera Bldg. to analyze, tear apart, and reconstruct the various phases of their common hobby—amateur movie making.

Their programs are varied. Once a month, usually the night of their business meeting, a "Film Analysis" is held; on another night, a technical lecture; one night is spent in their "little" theatre viewing pictures made by amateurs of other clubs. And one night a month includes a visit to a studio, plant, lab or other commercially engaged organization to see how things are done professionally.

"Film Analysis" night sounds like a very serious, profound affair. While it is serious in that it gives an amateur a chance to get the opinions of others, it still retains something of the "Fite Nite" about it—with everyone taking sides! The films are screened and then the meeting is thrown open for discussion and criticism. In this way he may get the benefits of the opinions of the group on the relative merits and faults in his work.

One of the most praiseworthy activities engaged in by the club is under the committee chairmanship of Mr. Robert O'Shea. This is the "Outside Activities" committee. Settlement house, orphanages, hospitals, or even private individuals are singled out and films screened for these people.

Mr. S. J. Hofreiter tells of his experience with a boy who had been bed-ridden for a long time. This boy was unable to sit up, or even to get into a lying position from which he could look straight ahead and see the screen. Mr. Hofreiter's solution to the problem was to place a mirror at a 45 degree angle a short distance away from the projector and to shoot the image up onto the ceiling. This involved turning the film around in the projector so that the picture could be seen "right sideto." And in this manner the entire picture was viewed on the ceiling. Even by the dog. Mr. Hofreiter tells of the dog either tiring and falling over on his back as a result of his continued watching, or just deciding that it would be the easiest thing to do; the fact remains that the dog watched the greater part of the showing on the ceiling lying down on his back.

Another activity is the school that is conducted for those desiring formal instruction in amateur cinematography. In connection with this we wish to say something that we feel would be of help to all those interested in amateur movie making generally. One more or less unfortunate condition exists in cinema work that does not in "still" photography: It is very difficult, if not impossible, for the amateur movie maker to process his own film. Developing and printing one's own film gives an insight into the workings of an emulsion that cannot easily be had otherwise. The still photographer has the advantage of being able to conveniently develop his own negatives, and to make the prints. When the resulting prints are not to his satisfaction, he investigates. Too much development. An overtimed print. Or some other reason for it. He gets to the point where his processing is correct, and then begins to see the defects in his camera work, and is able to correct this. Working with his own negatives, or at least in close contact with them, he is able to follow through and get a closer, more intimate feeling than if he had some one else do it for him. Now, it is not necessary to always keep doing one's own processing to turn out fine work; it is just that there is a greater intimacy with the medium if one has a working knowledge of that medium.

The amateur cinematographer is at a disadvantage there because he uses reversal film in the great majority of cases, and, even if he did use negative, the cost of the processing equipment would make the venture prohibitive. Amout the only suggestion that could be offered would be to acquire a small still camera and try out the same ideas with the same type of film, lights, etc. (not lenses!) as used with the movie camera, and to develop and print those films. A lot could be learned from that.

The club's president is dynamic Mr. I. Vise. A lawyer by profession, we wonder how he manages to keep his mind away from amateur movies during the day.

Chicago Cinema Club **By Warren Sandage**



THE PROJECTOR

By Hamilton Riddel

WINTER months mark the beginning of a busy season for your home movie projector. There will be more than one occasion at your home when good friends get together, and they will call for: Movies!

So be ready to give them a show . . . a real show!

Nothing contributes so much to satisfying pictures as a well-cleaned, smooth-running projector. So let's give the machine a close check-up to insure the maximum results which it is capable of delivering. It would be a good idea, too, while you are at it, to re-read the instruction manual. Then you will be sure not to overlook any important points in servicing your projector.

Be sure to oil your machine as indicated in the manual. Don't use too much lubricant, for an oil-soaked projector is almost as bad as one with none at all. A drop of oil, at each lubrication point, is usually sufficient; and wipe off any excess that appears. Thus you prevent an accumulation of dust and dirt that causes excessive wear in the mechanism.

Next, your attention should be directed to cleaning the sprockets, film gate and claw-movement. As films thread their way through these passageways, there is a gradual accumulation of dust, emulsion particles and other foreign substances that make your machine noisy and which will most assuredly tend to scratch your films.

Such deposits can be removed with a slightly moistened rag and discarded toothbrush. Under *no* circumstances use a fingernail file or knife in cleaning the film gate: you can't afford to scratch or mar any metal parts that the film comes in contact with.

The optical system of your projector comes next. Make sure that the silvered reflector, located directly behind the projection bulb, is in proper alignment with the lamp, and that it is free of dust and finger-marks. You should also polish the projection bulb. If it is excessively blackened through long use or, as is sometimes the case with the higher wattage type, if the bulb has a "heat blister" on it, you will do well to discard the veteran, in favor of a new lamp. Then proceed to the condenser lens. Carefully remove any oil, and all dust, and replace the lens. And lastly, remove the projection lens and polish it gently. Careful, now! For optical glass is relatively soft, so don't use too much "elbow grease" in this operation.

Do not overlook the film aperture plate in your servicing. A soft brush, usually furnished with most projectors, will wipe away all unwanted dust and emulsion particles that have collected on the plate. Your movies will then be free from fuzzy border lines that dance and detract from the pictures on the screen.

Check carefully the various controls on your machine and don't overlook the take-up reel. So often a bent flange on such reel stops the show, almost before it is under way, when the film is jammed out of alignment as it feeds on to this lower reel.

Our attention is next directed to a typical set-up for a home movie show . . . a show which will have all the professional aspects of your favorite theatre, yet afford your friends the enjoyment of a private screening, in the comfort of your home.

Comfortable visibility for your audience is the most important factor to consider in setting up for a home movie show. Try to avoid hasty, crowded arrangements that make it necessary for a number of your guests to sit on the floor of your living room, as they view the movies, ready as are some people to assume this informal position in spite of all you say. Such guests will only get a poor impression of your pictures, caused by the distorted viewing angle and uncomfortable posture they are in. Another thing, don't let your friends sit too close to the screen. You can't expect compliments for your movie efforts if, in such close proximity to the moving hadows, your friends' eyes are dazzled by the gyrations of the millions of particles of grain that make up the screen images.

Set your screen on a level with that of the projector. Arrange chairs well back from the screen, but in as near a straight line with projector and screen as you can without interfering with the "throw" of the show. Your audience will then be in best position to enjoy the movies.

Provide a table for your projector which is large enough to provide room also for the projection reels which you are to present. Keep the reels in numerical order, and out of the humidor containers, so that there will be no hitch in your show. Everything necessary for your presentation should be at your finger-tips, ready for instant use, with no time ont for fumbling!

Incidentally, don't stop to rewind each reel after its presentation, as this practice causes too much interruption in your show. It is far better—far easier, for that matter—to leave all rewinding jobs until after your guests depart.

There's difference in opinions as to how dark a room is desirable for a satisfactory showing of home movies. Many people favor a semi-lighted room . . . often are careless in allowing extraneous light to reach the screen. However, it is the writer's feeling that a room, in which movies are being projected, should be in total darkness. While this requirement may be overlooked in the presentation of regular black and white movies, it would appear to he most important factor in showing natural color films. A great part of the gorgeous color renditions, now obtainable on amateur film, are lost unless full opportunity is given the projection lamp to bring out the colorful pictures on the screen, without undue competition from some extraneous living room light fixture! So again we say . . . keep your home theatre dark, very dark, while you're showing your pictures.

Most everyone has reels of mixed pictures, some of the regular black and white spliced onto the natural color variety. Each type of film, viewed as an entirety, is satisfactory, but when immediately followed upon the screen by natural color presents an unwelcome study in contrast. Many home movie fans will overcome this condition by tinting and/or toning their black and white films. Nevertheless, some will not care to trouble themselves with this additional processing, or for one reason or another they will not care to impart a permanent tint to their films. But there's an easy way out, and the answer is: Use a selective color wheel in front of your projector lens: Fashioned somewhat like the gelatine color wheel used on spotlights in theatre presentations, which give the limelights their array of tinted lightbeams, the amateur cinematographer can easily construct such an attachment, made from small bits of colored gelatine or colored glass, and position the device before the lens of his projector. Thus, supposing your natural color film has passed through the projector gate, it is only a matter of a split second to swing your color wheel into position when your regular black and white film follows along. With this attachment you won't let your audience down!

In presenting your movies, prove yourself a showman. Be sure to gauge your audience well . . . give them the movies you know will click. And don't run too many films The best test for your home movie show is that it ends with the audience asking for more!

New Negative Filing System For Miniature Negatives

There is always that controversial subject amongst 35mm small camera users as to the method of filing their negatives.

For the "strip filers," E. Leitz, Inc., has recently introduced a new filing system. This consists basically of film "jackets" each of which holds a six negative strip. The "different" feature of the filing system is the fact that the "jackets" are made of a transparent material which is relatively thick and which therefore, does not have a tendency to curl. Another novel feature of this new film "jacket" is that it is not necessary to push the strip of film in from one end in order to insert it into the "jacket." The Entire "jacket" opens up through a "zipper-like" action.

New Kalart Speed Flash

The new Kalart Compak Speed Flash works with all low priced Kodak, Agfa and other cameras fitted with pre-set automatic (self-setting) shutters. Designed expressly for the low priced midget bayonet-base flash lamps the Battery-Flector unit of this synchronizer comprises Kalart's popular Concentrating Reflector with its exclusive bulb ejector and a built-in battery holder containing two standard size batteries. The whole unit will fit in your pocket—even with a dozen bulbs!

Famous Persons in "Sergeant York"

● Major General George B. Duncan, retired, who commanded Sergeant York's World War division, is the latest historical figure to give consent to his portrayal in "Sergeant York," which Jesse L. Lasky and Hal B. Wallis are producing for Warner Bros. General Duncan is living at Lexington, Va.

Other noted figures of the World War era who have granted permission for their screen appearance in the drama are Secretary of State Cordell Hull and General John J. Pershing. Howard Hawks will direct the production.

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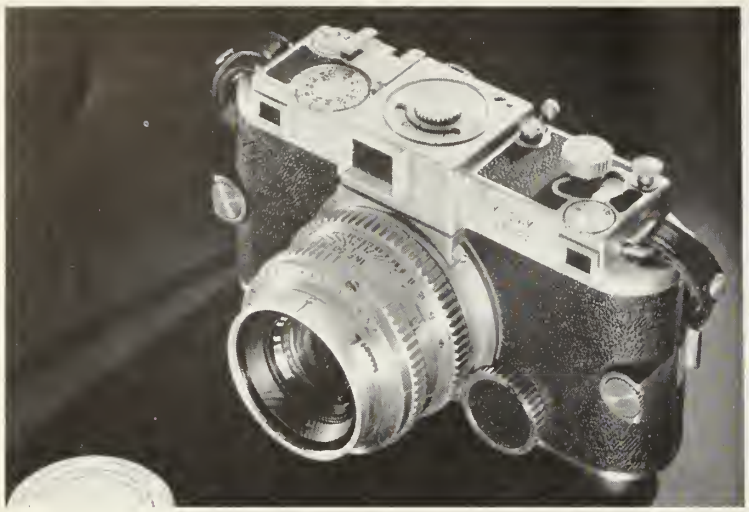
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Brilliantly engineered and as precise as it is handsome is the new Eastman Kodak Ektra 35 mm. Camera. Interchangeable magazine backs and lenses; precise range finder; focal plane shutter of outstanding performance; individual adjustments for user's vision; variable power view finder for both normal and long focus lenses and numerous other technical refinements.

TRADEWINDS

Eastman Announces New 35 mm Camera

● Heralded as "the world's most distinguished camera," a deluxe 35mm. camera, the Kodak Ektra, is announced by the Eastman Kodak Company, Rochester.

Designed for the serious worker who prizes quality and precision in photographic equipment, the Ektra includes as an integral part of its design certain new features never before available in any 35mm. miniature camera.

For this camera, six superb interchangeable lenses are announced, incorporating new optical techniques which insure a quality of performance unequalled elsewhere. Focal lengths range from 35mm. to 153mm., with other lenses to come, and a program of fine accessory equipment is also planned.

Magazine Backs Are New

A distinct departure in miniature cameras, the Kodak Ektra is the first to provide both interchangeable lenses and interchangeable Magazine Backs for 35mm. film. These Magazine Backs enable the Ektra owner to switch from one type of film to another in the middle of a roll, quickly and without loss of a single frame.

Other outstanding features of the new Ektra—in addition to a host of minor refinements—include:

1. Precise range finder, coupling automatically with all focal lengths of Ektra lenses, and equipped with an adjustment for individual vision.

2. A focal plane shuter of unique precision and stability of performance, with speeds from 1 second to 1/1000, and "bulb."

Finder Sets for Lens in Use

3. A variable-power view finder which sets by a simple dial for lenses of focal lengths from 50 to 254mm., corrects automatically for parallax, and has an adjustment for individual vision.

4. A rhythmic operating cycle for all major adjustments, with all operating controls at the finger tips of one hand, and the other hand free for gripping camera.

5. Full visibility of all scales and dials from the top of the camera (including the direct-reading depth-of-field scale and aperture scale on most of the lenses) so that all operating data are available at a glance.

6. Rapid film advance and rewind, with a visible indicator actuated by the film itself—providing a sure and accurate check on film movement. Advancing the film simultaneously resets the shutter for another exposure.

Rapid Manipulation, Clear Scales

7. All control dials designed with a distinctive milled edge for rapid, convenient manipulation, and marked in large, clear numerals.

These spotlighted features are in addition to such technical refinements as an automatic exposture counter on the Ektra body and a manual set exposure indicator on each Magazine Back; a visual signal which shows after each exposure until the film is advanced; positive prevention of accidental double exposures; a velvet-smooth shutter release plunger—absolutely eliminating release shock—with a quick-set lock to prevent accidental release; a delayed-action mechanism for self-portraits and similar work, and other features.

A neat brown cowhide combination case is available for the Kodak Ektra, to accommodate the camera with lens, an extra Magazine Back, two extra film cartons, and several filters. All Wratten Filters, Kodachrome Filters, and the Kodak Pola-Screen are available for use with all the lenses.

The Kodak Ektra may be purchased with any desired lens. Additional lenses and additional Magazine Backs may be purchased separately as desired. The prices are: Kodak Ektra with Ektar f/3.5, 50mm., $235.00; Kodak Ektra with Ektar f/1.9, 50mm., $300.00; Kodak Ektra with Ektar f/3.3, 35mm., $243.00; Kodak Ektra with Ektar f/3.5, 90mm., $260.00; Kodak Ektra with Ektar f/3.8, 135mm., $305.00; Kodak Ektra with Ektar f/4.5, 153 mm., $325.00; Magazine Back, individually fitted, $55.00 (price includes fitting at Rochester); Ektar f/3.3, 35mm., $68.00; Ektar f/3.5, 50mm., $60.00; Ektar f/1.9, 50mm., $125.00; Ektar f/3.5, 90mm., $85.00; Ektar f/3.8, 135mm., $130.00; Ektar f/4.5, 153mm., $150.00; Combination Case, brown cowhide, $15.00.

An illustrated lecture, covering the features and capacities of the Ektra, is now in preparation. It will be available for showings by arrangement with the Camera Club Photographic Service of the Eastman Kodak Company.

G.E. 3-Light Photo Enlarger Lamp

● Development of a 50-100-150 watt "A 21" white Mazda Photo Enlarger Lamp—designed to provide amateur and professional photographers with three intensities of light from a single source—has just been announced by General Electric's lamp department at Nela Park, Cleveland, Ohio.

For proper operation, the new "A 21" requires special accessory equipment which is being built into new enlargers soon to appear on the market or which should be built into existing equipment. Chief among these "necessaries" are a 3-contact porcelain socket and a wattage selection switch.

Among outstanding advantages claimed for the new lamp are the following: Use of the 50-watt filament provides ample light for the setting-up and focusing operations which frequently consume considerable time; the relatively little heat produced by the 50-watt filament permits leisurely setting up and focusing without "cooking" the negative; for making exposures, two higher stages of light are available; one an intermediate intensity from the 100-watt filament alone, the other a much higher intensity of light from use of the 50 and 100-watt filaments each burning at the same time. List price 60 cents.

Kalart Sistogun

● Among newspapers and picture services now using the Sistogun are listed Associated Press, World Wide Photos, New York Daily News, Acme News Pictures, International News Pictures, New York Sun, Daily Mirror, Philadelphia Inquirer, New York World-Telegram, New York Journal-American, News Week, Cleveland Plain Dealer, Charleston Observer, PM.

Leda Dubin, in charge of the West Coast Office of Kalart, Taft Bldg., Hollywood, tells us that during the Sistogun campaign, the unit will be installed free of charge if purchaser will bring in or send his camera to the Hollywood office.

Miss Dubin further informs our readers that any repairs, installation and service of Kalart products are handled without delay at the office in Hollywood. This means a great saving in time for West Coast users.

Movie Forest Fires

FOREST FIRES in the movies are staged with all the precision of a ballet routine. The star follows a course through the flaming woods that has been charted as carefully as a danseuse's steps.

"If the actor loses his way, he's in serious trouble,' explained Otto Brower, the thrill director of Hollywood. "An assistant sounds the alarm and the firemen rush in with hoses to throw a wall of water around the player. That seldom happens, though, since we go through so many rehearsals that he knows exactly where he is going."

Brower, who has filmed earthquakes, simoons and other catastrophes for some of the movies' most exciting scenes, has been directing a $150,000 conflagration on 20th Century-Fox' backlot for the last month. The scenes are for Zane Grey's "Western Union," which is being filmed in Technicolor.

The studio built a forest that spread over 17 acres. The trees were real. Scores of Los Angeles property owners who want to clear trees out of their yards telephone the movie lots every week. The studios, if they are in need of a forest, do the excavating free.

"We gave the players asbestos clothes for the scenes where they're working within a foot or two of flames,' said Brower. "Even at that, it's dangerous. Bob Young lost his eyebrows the other day. The heat singed them off before he realized what was happening. Dean Jagger suffered minor burns when he strayed two feet off the course we had set for him."

The studio kept 15 firefighters, two fire trucks, a doctor, two nurses and an ambulance standing by.

"The special effects men can tell within inches just how far away the flames are going to leap from a burning tree," said Brower. "They have perfected a chart over the years which takes into consideration the wind, the humidity and the type of timber. The flames were within 18 inches of Bob Young several times."

Burning wagons rolled almost into the camera for "Western Union," which is a pioneer story, and blazing pines fell a few inches away from the camera platform. It will all look on the screen as though it had just happened that way and yet a crew of 120 "built" the forest fire thrills as an architect would a house, blueprints and all.

Fox to Film O'Henry Story

● "The Gift of the Magi," often considered the best work of America's genius of the short story, O'Henry, has been bought from the O'Henry estate by 20th Century-Fox.

Jo Swerling, who recently completed "Blood and Sand," has been signed to write the screenplay under supervision of associate producer Robert T. Kane. Actually, "The Gift of the Magi," a short story, will be only the basis for the motion picture. It will provide the famous O'Henry snap ending for an original plot devised by Swerling and Kane.

New Graphic View Camera

FOR the first time since as far back as anyone can remember, there is something new in view cameras. The Folmer Graflex Corporation has just announced the Graphic View Camera, which, for the first time, brings modern design, engineering and production methods into a field that has been long neglected. This new 4x5 camera is made entirely of metal and offers a unique combination of versatility, rigidity, lightness, and simplicity.

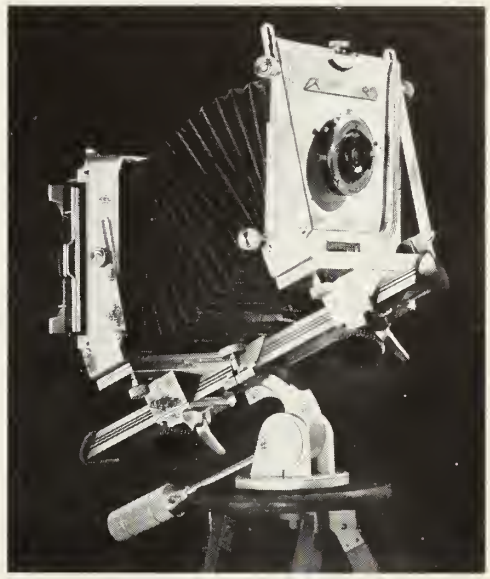
The front of this camera rises three inches, tilts either forward or backward, swings and shifts either to the right or left. Its back also swings, tilts and shifts. These two in combination give the photographer all the adjustments he needs to solve practically any problem of linear perspective, sharp field or form.

Its removable lensboard permits the use of a wide variety of lenses. The camera also accepts lensboards of the 4x5 and 5x7 Speed Graphic cameras enabling Speed Graphic lenses to be used interchangeably on either camera without disturbing their flash synchronizer adjustments. A 12½-bellows extension is provided. Ground-glass focusing is available with either "Graphic" or "Graflex" back.

A real departure in view camera design has been employed in this new camera. An inverted V-section bed of aluminum alloy forms the support upon which both lens and film may be focused to give complete control of focus and scale when working at extremely close distances. Smoothly-operating rack and pinions which may be locked in any position are actuated by large, convenient controls. This type of construction makes it possible to shift the entire camera forward or backward to preserve camera balance with heavy lenses or to prevent cut-off when working with wide-angle lenses. It is also one big reason for the camera's unusual rigidity, stability and lightness.

Built integrally with the camera is a combined camera base and revolving-tilting tripod head of which all movements are controlled by a long, accessible handle. This feature greatly facilitates positioning the camera.

A built-in spirit level is provided on top of the camera. The reversible back may be removed and re-positioned for either vertically or horizontally proportioned pictures. Built to close tolerances and with component parts of great intrinsic strength, the new 4x5 Graphic View Camera is definitely a precision instrument. Graflex dealers now have it on display.



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TELEVISION

By DUSTER EVANS

In the beginning there were magic lantern slides. Then came the dawn. Silent motion pictures, silent and yet strong in their appeal to the imagination—an imagination that went one better and brought forth sound pictures which in turn quickly raised an acoustically sensitive proboscis and readily remedied an era referred to as "the smellies." This was accomplished by the genius of craftsmen within the industry, many of whom about this same time were silently working behind locked doors on the perfection of a system for the immediate transmission of image and sound, which we accept today as of sufficient merit to take a position alongside the electronic arts of the age. That is Television!

The year 1941 will leave a definite impression upon the pages of Television history. The early granting of many licenses by the Federal Communications Commission for the furtherance of experimental activity is only to be topped by the granting of commercial licenses to some fifty odd embryonic stations throughout the nation. Money and manpower sufficient to make this all a reality awaits only the granting of said licenses. Manpower that eventually will be represented by six hundred thousand strong, that being the estimate made by David Sarnoff, President of Radio Corporation of America.

The furtherance of Television in Europe has been frustrated by the tenebrousness of war. Yet, an inkling to the effect that Television has been successfully employed in reconnaissance activity can readily be taken for granted when we consider the fact that here in America television as applied to military purposes is being instructed to some eighty young men, members of the first Television Unit to be formed for that purpose, in the United States.

Under the command of Captain William L. Prager, whose articles on Color and Television have previously appeared in The International Photographer, Television Unit No. 1, of the Signal Corps, Military Order of Guards, U. S. A., is a reality. A civilian training organization operating by Act of Congress and authorized by the War Department, is training young men, and men young of mind, under competent instructors, the military adaptation of Television. With a working laboratory of its own, and equipment, Television Unit No. 1, with headquarters in Hollywood, is making Television history. The company is made up of men from all walks of life, but naturally there is a predominance of men from the picture and radio ranks, for like its predecessors, television finds its followers firmly planted in the entertainment capitol of the world.

With Paramount Pictures holding fifty per cent interest in DuMont Television and various other picture and radio interest financially set into the television picture, it is only to be expected that Hollywood will likewise become the Television capitol of the world. It now possesses the loftiest transmiter in the world, at an elevation of eighteen hundred feet. Over twice that of the Empire State Building in New York. For, with the inauguration of the new three-story Thomas S. Lee Station, W6XAO, atop of Mount Lee, with a transmitting radius of over sixty miles, Hollywood, and all of Southern California, is soon to be treated to a form of television entertainment not to be surpassed by any one other part of the country.

Many other licenses have been granted for the experimental telecasting in the California area, both south and north. In the Los Angeles district alone there have been a sufficiency to tax the reception of the better receivers with five channels capacity. Those licensed have been Television Products (Paramount), Hughes Tool (Howard Hughes), The May Company, LeRoy Jewelry Co.

On the receiving end there are over ten different makes of television receivers selling from less than one hundred twenty-five dollars for the smaller picture area types, to the largest DuMont combined Television and Radio receiver with a picture area of 169 square inches, and priced at about double of that of the smaller sets. All in all, when Television has reached development corresponding to the current radio development, Doctor Ortestes H. Caldwell, Editor of *Radio Today*, foresees a billion dollar sales volume, annually!

Thus, predictions too become realities. Television has arrived. It only awaits the granting of commercial telecasting to set off the spark, and at a time when wars and rumors of wars seem destined to further retard the rational and sane efforts of our pioneers of vision. Those pioneers whose efforts have not been in vain, to the end that radio and pictures (be they instantaneous or filmed) together, neither supplanting the other, shall bring into the American home and theatre the last word in entertainment or education—TELEVISION!

Television stations licensed by the Federal Communications Commission: W9XAL, Kansas City, Mo. (First National Television, Inc.); W1XG, Boston (General Television Corp.); W9XG, West Lafayette, Ind.; W2XDR, Long Island City (Radio Pictures); W3XAD, Camden, N. J. (Portable); W3XEP, Camden, N. J. (R.C.A. Manufacturing Co.); W9XK, Iowa City, Iowa; W9XUI, Iowa City, Iowa (University of Iowa);

Renewed as of March, 1940: W2XAB, New York City; W2XVT, Passaic, N. J. (Allen B. DuMont Laboratories, Inc); W2XH, Schenectady, N. Y.; W6XAO, Hollywood, Calif. (Don Lee); W2XBS, New York City (N. B. C.); W2XBT, New York; W2XAE, Philadelphia; W3XP, Philadelphia (Philco); W9XZV, Chicago, Ill. (Zenith).

With the government spending billions of dollars on the navy, the army and airplanes for our preparedness program, there also will be needed several thousand radio and signal men for the army and navy.

Gaglielmo Marconi, Dr. Lee De Forest, G. W. Pickard, Edwin H. Armstrong and Philo T. Farnsworth perhaps never realize the many men who would receive work through their inventions.

Those wishing to enter this field may secure information by addressing the author, care of International Photographer.

First Television Unit, United States Army



George H. Seward, Television Pioneer

Following is copy of letter received from subscriber Winslow Stewart, Associate Member Television Engineers Institute of America, R-74643, "X" Flight, R.C.A.F., Canada:

"It is with deep regret that the writer notes the death recently in Hollywood of George H. Seward, President of the Television Engineers Institute of America, Inc., which organization he founded and the admirable objectives of which he formulated.

"Like most pioneers Mr. Seward will be unable to observe the culminations of past and present research and development of the television art in the near and distant future, a future in which he held such abounding faith.

"His untiring efforts during the past many years to foster public interest in television have not been wasted and should not go unrecognized by the Radio-Television trade press. His name and reference to his television activities have appeared in many prominent publications.

"During the past summer the writer had the privilege of working with Mr. Seward as his

assistant in organizing and conducting the First National Television Convention in Hollywood. It was unfortunately the last of Mr. Seward's series of pioneering efforts in the behalf of television; unfortunate because he had outlined plans for many further efforts.

"Thus the writer believes he speaks for all those who have had the opportunity to work with Mr. Seward and be touched by the spirit of pioneering, devotion and integrity which was abundantly his."

Reprinted from S.M.P.E. Journal

(Concluded from January issue.)

Future Work—It is recognized that this report does not consider color. More time will be required to investigate this phase of the problem adequately from the standpoint of flicker and visual fatigue. Likewise, more data are needed on the adequate portrayal of smooth motion as a function of frame frequency. It is believed that some additional work of an experimental nature is desirable to determine effects of certain of these phenomena in the television field. So far as the work has gone, there seems to be a trend of evidence pointing to the conclusion that television will not be on technically safe ground if the frame frequency is reduced below that now in use for motion picture work.

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U. S. Army Requests "Teddy the Rough Rider"

Twenty-two prints of "Teddy the Rough Rider," Warner Bros.' historical featuret staring Sidney Blackmer, have been requested by the U. S. Army, for morale and entertainment use in their training camps.

Warner Elevates Five Players to Stardom

● Jack L. Warner, vice president in charge of production at Warner Bros., and Hal B. Wallis, executive producer, elevated five players to full-fledged stardom with a single stroke of the pen, as a result of their work in 1940 films. The fortunate five are Eddie Albert, Brenda Marshall, Dennis Morgan, Ronald Reagan and James Stephenson.

candid photography

(Continued from Page 16)

the only difference between human beings is a matter of money.

At the same time it became apparent that the candid camera could tell a story, show the background from which so much originality is gone and give the outsider an insight into the other world. What greater curiosity can one have than to know how the other lives?

Today candid photography depicts important personalities sneezing, standing in awkward or other positions, or doing this or that, as long as it is a real happening in real life. So much time and space is devoted to candid shots because of the alleged human interest. However, I am inclined to believe that it has its cycle and at present ranks high among photographers. On the other hand, like human life, it has its end. Whether even after its departure it will have a different effect of doing away permanently with the present accepted type of photography remains a question to be answered through photographic history.

Candid photography is characteristically not photography as the artist sees it. There are lacking all the essentials of beauty, symmetry, color balance and composition. Planning a candid shot is momentary. Shooting a beautiful still to be hung on the wall, or put on a shelf, or use in some portion of the room, is meditated and planned photography. A candid shot is examined and commented upon only once as a rule, then cast aside to be forgotten. Such is not the case with a beautiful still. Yes, there are exceptions, but not enough to offer substantial argument. Logic and reason force us to our conclusions. Candid photography is passing through a photographic cycle, perhaps at its half-way mark.

To photographers who labor industrially to satisfy a querulous public, my only answer is to shoot candid photography and fall in line with the parade, make it ring home, let it live, spare the subject, practice moderation for the sake of being discreet. Photography, like painting and music, can be deftly applied. In the motion picture world, as the cinema-addicts crave it, intimate close-ups of people at work, be they director, actor, cameraman or electrician; nature in the raw photographically speaking, is the vogue, so to the still cameraman I say: Let it be candid and may the portion not be a war ration.

Next Lupino Vehicle

● Ida Lupino's next picture at Warner Bros. studio will be "The Damned Don't Cry," by Harry Hervey. The story deals with the efforts of a girl to lift herself out of the environment into which she was born.

BOOKS

Reviewed by Ernest Bachrach

"The American Annual of Photography, 1941," published by American Photographic Publishing Company, Boston, Massachusetts. Paper bound $1.50; cloth $2.25. 276 pages plus advertising.

One for the shelf. This annual is one that I would recommend purchasing yearly. Profusely illustrated from the pick of the pictorial field. The articles are written in a comprehensive way by skilled craftsmen.

The most interesting feature of the book is that the publishers have kept pace with the modern trend, but still retain all that is fine and wanted from the accepted art point of view. Possibly this is because they themselves are accomplished in their line of endeavor.

Included are eighteen articles and of special interest are "The Paper Negative," by Adolf Fassbender; "Color Photography," by Joseph S. Friedman; "Making the Most of Architecture," by Robert R. Miller. Hy Schwartz's "Photoflash Photography" and Roy Gallagher's "Fluorescent Light in Photography" are well worth reading.

Inasmuch as this book is so well known more need not be said. It is a good buy, on sale at most photographic supply stores and book stores.

"Copying Technique," American Photographic Publishing Company, Boston, Massachusetts. Cloth bound $1.50. 128 pages.

This textbook, a compilation of Frank R. Fraprie and Robert H. Morris, probably was intended for the initiated camera enthusiast. There are a number of short articles dealing with equipment; preparation of work; black and white and color copying; the use of infra-red, ultra violet, etc., which might well have appeared in monthly articles as space fillers. Each problem of copying has its own solution. To the average man the book is not worth the price.

"Modern Photography," 1940-41. The Studio Publications, Inc., New York City. 120 pages, of which 103 are reproductions. Paper bound $2.50, cloth $3.50.

A miniature edition of U. S. Camera, less grooved, but leaning toward "The cultivation," as the editor phrases it, "of modern photography." A foreword by Alexander King, associate editor of *Life Magazine*, once more impresses us with the fact that raw and unbeautiful truth is to be desired, even to the beauty of an intelligently created picture of a battered garbage can.

Can't say much for the book at the price asked with such books as the above mentioned American Annual and U. S. Camera as competition.

"The Science and Technique of Advertising Photography," by Walter Nurnberg. The Studio Publications, Inc., New York City. Cloth bound $3.50. 94 pages, illustrations and text.

Had to read this book through twice because of the highly controversial text. One's thoughts on the subject may not coincide with the author's. As this is an ambitious attempt to orient one with a highly specialized form of photography plus the personal element, I would say that an excellent job was made of it. This volume is in two parts: Part I, Fundamentals; and Part II, Execution. Part I deals with the photographer and his client; status of advertising photography; light and shadow; sales psychology. Part II, still life, three chapters; face and figure, three chapters; photo combinations (montages, etc.) and a conclusion. The illustrations bear out the text to a degree. Be that as it may, as the jobs present themselves one may be better equipped to tackle them after having absorbed the contents of this book. One for the shelf, but tough at $3.50.

Prop Coal Mine

Twentieth Century-Fox has bought 20 tons of coal which it is burying in the hills 30 miles north of Hollywood so that some movie extras may sweat and labor for six weeks mining it.

The studio is sinking a coal mine in a prop Welsh town. It is built at a cost of $100,000 for Darryl F. Zanuck's production of "How Green Was My Valley," Richard Llewellyn's best seller.

Since the hills about Hollywood never saw any coal except in smoke form, it was cheaper for the studio to "plant" the coal than to go to the nearest mines, 500 miles distant.

Sir Cedric Hardwicke Signed by RKO

Adding another outstanding screen personality to its powerful roster of Hollywood stars, RKO Radio has signed Sir Cedric Hardwicke, one of the greatest character actors of today, to a three-picture acting contract in the company's program for the 1941-42 season.

Sir Cedric was for many years a noted stage figure, and has since scored many successes on the screen. His contract to act for RKO brings him back to the lot where he gave such an outstanding portrayal of the High Justice Frollo in "The Hunchback of Notre Dame." His more recent pictures include "Victory" and "The Howards of Virginia."

Charlotte Greenwood Awarded Major Role

Charlotte Greenwood, frisky veteran of the stage and screen, has been awarded one of the major roles of her career—a part almost completely devoid of comedy.

The long-legged "Letty" of the stage will carry most of the sympathetic burden in "Miami," an imposing Technicolor musical which is scheduled to go into production in about three weeks with Betty Grable heading the cast.

Walter Lang will direct and Harry Joe Brown has been assigned as the associate producer.

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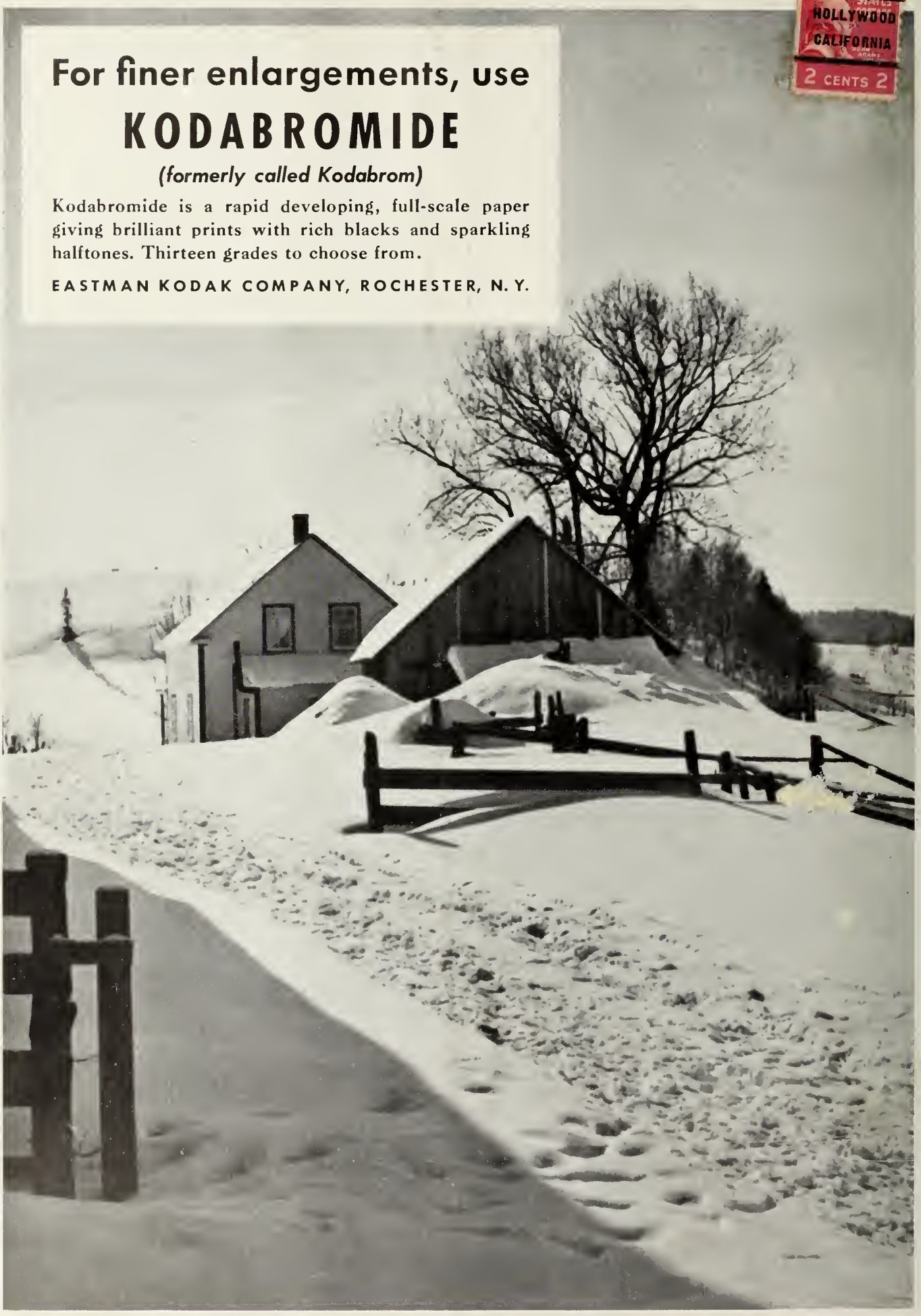
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I.P.E.U.
BROWN-CALDWELL

On the Cover

This scene from "The Outlaw," Howard Hughes Production, was shot near Tuba, Arizona on the site of a prehistoric Hopi cliff dwelling. A four by five Speed Graphic camera and Eastman Infrared Cut Film were used. Exposure: one second at F.12. 25 A filter.

Correction

The stills from "Tobacco Road" featured in the February issue should have been credited to Emmett A. Schoenbaum and Gene Kornmann. Our apologies to Mr. Schoenbaum and Mr. Powolny for the error.

Strangest Railway Train at Fox

The strangest railway train in the world has been making daily runs along 150 feet of track on Stage Two of 20th Century-Fox' Hollywood studios.

Built according to specifications and complete from firebox to tail lamp, the 6-car train was constructed at a cost of $40,000 to serve as the setting for "Sleepers West," the Lynn Bari-Lloyd Nolan comedy mystery. Included in the train is the engineer's compartment, baggage car, two Pullmans, a diner and a lounge car.

For railway scenes, studios usually rent the equipment. However, more than 90% of "Sleepers West" takes place in and around a train and frequent cloudiness and rain made location work too expensive. So, instead of going to the train, the studio brought a train to a sound stage.

Strangest part about the movie train is that it can be completely dismantled and stored away in a single day. Following its work in "Sleepers West," it will be reassembled from time to time to appear in subsequent 20th Century-Fox productions.

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"SUNLIT NUDE" **By William Mortensen**

(Enlargement made from 35 mm. negative)

PRUDERY AND THE TIMES

From "Monsters and Madonnas"
By WILLIAM MORTENSEN

Among the doctrines promulgated by the Medieval churchmen, few have reached wider or lasted longer than that of denouncing the "flesh" as evil and loathsome and therefore to be hidden. Neurotic ascetics, flaming with a compensatory zeal kindled by their own abstinence, built up a complex against the naked human body that finds expression even today. Odo of Cluny in the Tenth Century reviled in carefully chosen epithets all the beauty of the female body. "If we cannot bear to touch phlegm or filth even with the tip of the finger," said he, "how could we desire to embrace a bag of dung." And with wonderment we read of female ascetics who bathed in the dark or in their shifts, lest they fall into temptation. To this same impulse may be traced the crime committed by the missionaries of the last century against the island peoples of the Pacific; simple beauty-loving races compelled under threats to become lisping prudes, walking to chapel in Mother Hubbards and cast-off Prince Alberts.

This movement against the innocent South Sea Islanders was perhaps the final manifestation of an impulse already somewhat discredited in the land of its origin. Although in Victorian England the forces of prudery held absolute sway, the character of this prudery had changed utterly since the days of Odo of Cluny. As Havelock Ellis points out: "The nineteenth century man who encountered the spectacle of white limbs flashing in the sunlight no longer felt like the medieval ascetic that he was risking the salvation of his immortal soul . . . he merely felt that it was 'indecent'." Already there was under way a movement toward a healthier, saner view of nudity, a movement which today is bearing fruit. Compare, for instance, our conventional swimming attire with the habits of the bather who, a hundred years ago in Victorian England, patronized a "bathing machine," a dressing room on wheels that was rolled out into the water. From this contraption the bather descended, completely sheltered by an awning that came down to the surface of the water, and in sedate privacy disported himself in the chill brine of the North Atlantic!

Although the movement has suffered much from the prurient curiosity of a section of the public and from the unseemly antics of a few publicity seekers, the growth of "Nudism" is significant as a symptom of a changing viewpoint. It may well be that this changing viewpoint is leading us to a new Renaissance of the plastic and graphic arts. "In all the arts," says Maeterlinck, "civilized peoples have approached or departed from pure beauty according as they approached or departed from the habit of nakedness."

Nowadays, among normal and intelligent people, we usually depend upon a wholesome reaction to the use of the nude in photography—pleasure in a healthy body, admiration for plastic beauty.

SOME RULES MADE TO BE BROKEN

By GREGG TOLAND

What is good motion picture photography?

If simple questions always had simple answers, it would save a lot of wear and tear, but it just doesn't seem to work out that way.

Let's have a look at an answer to our question; the answer being a good deal more complex.

Good photography means a good deal more than well photographed pictures. A picture may have carefully-considered composition, fine lighting, depth and character and still not be acceptable as "good" photography when applied to an individual scene in a motion picture.

The pictures the competent cinematographer must get on his film, in addition to the above requirements, must fit the dialogue, the action and the subject matter of the sequence in question.

For instance, very often my laboratory man has called me to say that my rushes were too contrasty, or too flat or that the exposure was too great or even that the picture was photographically out of balance.

All of this was, on several occasions, perfectly true. But the laboratory-man was judging the several hundred feet of film he was working on by accepted photographic standards. He did not see it as anything but a part of the whole. And he certainly did not see it through the eyes of the cameraman.

With all due respect to members of my craft, I have never been satisfied to find a successful formula and then stick to it forever after. To do so would be a positive denial of progress. I don't believe in this and I hope I may never be guilty of practising it.

But setting new standards in any profession or craft is not an easy matter. One must not start breaking the accepted rules until one has mastered these rules. No competent artist and I'm speaking now of the man with brush and paints, no competent artist, such as Bracque or Picasso, ever attempted the unconventional, weird canvasses for which they are famous until they had thoroughly mastered the conventional methods.

Applying this to cinematography, one can readily see that before "special effects" are to be sought by the cameraman, he must master his "art" as it is conventionally practised. And only when he has done that, has he earned the right to experiment: only then has he gained permission, so to speak, to deviate from the normal.

One of the greatest bugbears in Hollywood today, I think, is that the greater portion of all the creative workers—writers, directors, actors, cameramen and all the rest—are making pictures for the approbation of their fellow-workers.

This is an unhealthy condition and leads nowhere except to false values in pictures. Motion pictures should be made for the ultimate consumer, the audience. And the creative worker, should, in my opinion, make pictures for the audience and dare the criticism of his fellow-workers.

As great an occupational hazard as the Hollywood cameraman has to face is that of constantly wondering whether the director or the producer or the star will like the results of his day's work.

It is true that many are not in a sufficiently secure economic position to forget these considerations but to those who do have a few nickels in the bank, this viewpoint is directed: The sooner you adopt

the attitude of pleasing yourself as a photographer and disregard the multi-opinions of others, the better photographic story-telling will you do.

The great artist (and I am not debating whether the cameraman is an artist) does not paint his picture for the people who come to see it but he paints it because he wants to make a good, honest effort to contribute his very best to his work.

It is only human to want the society in which you live to like you and like your work but artistically, if you are to progress, you must see through and beyond your immediate society and aim at basic values which represent your personal taste.

While I'm taking pot-shots at the "shouldn't-be-dones," here's another. I quarrel, photographically, with the laboratories which are still using the Test System. This antiquated system, to my mind, is in a class with cranking a camera by hand.

As you know, there are two laboratory methods. (1) The Test Method, consisting of developing some six-feet of the test of a scene to determine how much or how little development that particular scene requires. (2) The Time and Temperature Method, in which every foot of film is developed identically throughout the entire pictures.



This informal picture of Gregg Toland, chief cinematographer on "The Outlaw," was shot during production by Ira Hoke.

In the second method, Time and Temperature, the result is constant for the complete footage shot and it means that the constancy of the picure is entirely in the hands of the cameraman, where it belongs. It eliminates the judgment of a third party, the negative-timer.

For instance, suppose we have a scene in which the girl is brililantly lighted in the foreground. She plays the scene, walks to the back of the set, which is in shadow, to deliver some lines. She then returns to the foreground. Also suppose we want a close-up of the girl in the shadows as she speaks her lines.

The laboratory man sees a test of both the scenes. One is very light. The other is very dark. "Ah-ha," says the lab-man. "This one must come up; that one must come down." So when he develops, he brings the light-values on both scenes closer together.

Result: The girl walks out of the brilliantly-lighted foreground, goes into the deep shadow, speaks her lines and we cut to a close-up. We have just seen her in shadow but in the close-ups she pops onto the screen out of the gloom, because of an over-developed negative. The quality has also changed. But, with the Time and Temperature Method, each shot would automatically be developed to the same density.

If you're looking for reasons, maybe this will answer your question. I think the only reason the Test System prevails is that a few years ago, before we were using accurate light-meters, the exposure depended upon the camerman's own judgment. This was subject to error. If the man's eyes were over-tired, he'd use more light, for example.

Therefore, the Test System was valuable in those days. But now, with accurate light-meters at our command, there seems to me to be no reason for continuing this antiquated system.

Personally, I have not used the Test System for two years. I believe I was the first man to use light-meters on black-and-white pictures, although they were employed for a couple of years before that on color. And many cameramen laughed at my use of a meter. Possibly on the grounds that camera-work was getting so mechanical, anybody would be able to do it. But the use of the light-meter saved a lot of time and when this time was given over to discussion of the picture with the director, with greater attention devoted to values, and the like, better photography was the result.

In "The Grapes of Wrath" some scenes were photographically flat, muddy and grey. Photographically, "bad" pictures. But these pictures fitted the scene accurately and conveyed the mood and feeling of the scenes they were reproducing.

In "The Long Voyage Home" there are a number of scenes in which the backgrounds are out of balance with the faces in the foreground. In printing these scenes down, so that the highlights on the faces were right, all that was left were the faces, the background was lost. And deliberately so, since the background would definitely detract from the actors.

Again, in "Wuthering Heights," I was told constantly by the laboratory that the exposure was "dangerously low." But I do not think I am over-stating when I say that Olivier's performance was aided somewhat by the fact that many times he was in very deep shadow, with only his well-spoken lines to take care of the scene. And this "working in the gloom" was a deliberate advice to make the dialogue more effective by coming from sinister, provocative shadows.

So, how does one get results one can say mean "good photography"?

Well, after mastering the techniques, the craft-aspects of camerawork, one has to have a feeling for those refinements, those "experimentations." And this is the "hunch", or the "feeling" every competent craftsman or artist has when he sets about doing a job.

Learn the orthodox methods thoroughly and, if you have this "sense of feeling," you'll find yourself reaching out for those effects that make "good photography."

Still Cameramen Receive Recognition

The First Annual Exhibition of the Artistry of Motion Picture Still Photographers will be held under the auspices of the Academy of Motion Picture Arts and Sciences, at the Hollywood Studios' Still Photography Show, April 14 to 26, 1941.

The Academy announces "It will be an annual event, created and maintained under strict supervision to bring greater recognition to motion picture still men and to advance the fine art of still photography, in the interests of motion pictures."

Entries will not be received before March 3 and not later than March 15. Gold Academy medals will be awarded the best prints in the seven different exhibit classifications. Competition is limited to still pictures made during the filming of motion pictures between March 1, 1940 and March 1, 1941.

Free lance still men are eligible for the competition and should direct their inquiries to Herbert Aller, Local 659, IATSE, 6161 Sunset Blvd., Hollywood; or to Donald Gledhill, Executive Secretary of the Academy.

THE AMAZING MR. FULTON

SPECIAL EFFECTS CHIEF, UNIVERSAL STUDIOS

Who said "impossible?"

There is no such word, according to John Fulton, Universal studio's ingenious young special effects chief.

Fulton has proved it by doing the impossible time and again. Since 1923, when he first became active in trick effects work, his amazing photographic achievements have startled the world's film audiences and been the envy of Hollywood's technical experts.

Probably Fulton's most celebrated accomplishment—at least, the one which brought him public recognition for the first time—was his rendering the Invisible Man invisible in 1933. Universal had purchased "The Invisible Man" from another studio which had given it up as impossible to film. Called in by studio officials, Fulton stated that nothing was impossible. Then he set out to show them.

With Claude Rains in the title role, "The Invisible Man" showed clothing walking down streets alone, footprints impressing themselves in the snow, cigarettes smoking themselves, and other weird effects. The press, public and Hollywood itself asked, "Who did that?" When told, they began to shout Fulton's praises.

Previously, Fulton had scored numerous other scoops in camera trickery. But being behind the scenes, he was accorded no credit or acclaim. It is only in recent years that the film industry has deigned to honor its technicians as well as its performers.

Fulton began life in Beatrice, Neb., in 1902, descendant of an impressive array of antecedents. Among the latter were steamboat inventor Robert Fulton, writer-composer-actress-pianist Maude Fulton, stage artists Jesse and Enid Fulton, and Dr. John Fulton, John's grandfather who brought Robert Taylor into the world.

Fulton's father is Fitch B. Fulton, a prominent Hollywood scenic artist for the past 17 years. When John was born, the senior Fulton was an itinerant stage manager and scenic artist for the Orpheum Circuit. As a result of the family's constant traveling, John attended 18 schools before settling in Los Angeles in 1917.

Early in his youth John was struck with the urge to reproduce beautiful scenes. His first impulse was to paint, but since most of the artists he met were starving, he turned to photography as a more practical method of capturing those breath-taking views glimpsed on vacation trips to the Grand Canyon, Yosemite and other beauty spots.

John's entire world was wrapped up in his little Brownie. He built his own laboratory, mixed his own "soup," developed his own prints. By nature curious and inventive he was soon dabbling in double exposure and other amateur photography tricks.

In Los Angeles John entered the Polytechnic Trade School, majoring in electrical engineering. He secured a job immediately upon graduation with the Southern California Edison Co. Dissatisfied with his meagre pay, he quit his position and became a surveyor for a realty company. Meanwhile he kept alive his interest in photography with frequent visits to the Mack Sennett studios where Charlie Chaplin, Harold Lloyd and other famous comedians were working.

It was in 1923 that Fulton surrendered to the lure of the film industry. He gave up his $50-a-week surveying job to serve for $18 a week as assistant cameraman and still photographer at the Sennett Studios. A year later he was called to Universal, where he remained for two years as assistant to Jack Rose.

Then Frank Williams, who owned most of the trick film patents at that time, engaged Fulton as his assistant. At last John was in his element. His next few years were marked by ingenious accomplishments. Such memorable scenes as the chariots running over men in "Ben Hur," the battle and barrage sequences in "What Price Glory," and "The Big Parade," the Johnstown Flood in the picture of that name were but a few of the amazing effects he conceived and supervised.

In 1927 Universal again summoned Fulton, this time for "Uncle Tom's Cabin." The ice scenes in this film are still remembered today as a most remarkable film achievement.

Not long afterwards, Fulton produced another sensation when he showed how lap dissolves could be made right in the camera. A little later he gave film-makers another jolt when he created a 400-foot montage sequence for "The Black Cat."

In 1928 Fulton went over to Columbia to concoct more celluloid magic for Frank Capra's "Submarine." After that historic production, he joined Producer Henry King to serve as cameraman on three films.

In 1931 Fulton again returned to Universal to head the studio's process department. His first assignment was to create the earthquakes, lava flows and other special effects for "East of Borneo." The startling electrical effects in "Frankenstein," the realistic bombing raid in the original "Waterloo Bridge," the spectacular plane crashes in "Air Mail" were other camera highlights evolved by Fulton before his notable work in "The Invisible Man."

A list of Fulton's other accomplishments since then would fill a volume. Last season he topped his efforts in "The Invisible Man" with even more ingenious wizardry in "The Invisible Man Returns." When Universal released "The Invisible Woman" a few months ago again it was Fulton who stole the show with incredible new magic.

At present he is busy brewing new legerdemain for "Man-Made Monster," the studio's latest horror drama. In it he will show a human being, supercharged with electricity, glowing like an electric light bulb.

Tall, blonde, modest John Fulton tries to disclaim the difficulties of his work.

"Much of it is purely mechanical, if secret," he states. "Most of it is done by a simple formula which we hit on and others just failed to find. Practically all of it requires long hours of tedious work by a large staff of photographers, artists and technicians.

"In many ways our job is a thankless one. For instance, an apparently difficult trick may be accomplished very easily. Other effects much more difficult are hardly remembered. But all in all the work is satisfying and I still don't think anything is impossible."

In the same department and ably assisting Mr. Fulton are Stanley Horsley and Ross Hoffman, second cameramen, and James V. King, assistant cameraman.

Weird Set at Universal

One of the spookiest sets ever devised by Universal technicians, famous for their backgrounds for blood-chilling thrillers, provides the principal setting in the newest Bud Abbott and Lou Costello starring comedy, "Oh, Charlie," now in production.

To all intents and purpses the setting is a bedroom, elaborately furnished, in a long abandoned tavern to which the comedians fall heir. By the simple application of pressure on a coat hook in a clothes closet, the room suddenly comes to life. The bed folds back into the wall, chairs and dresser disappear as though by magic, and in their places a big roulette table, crap table and other gambling devices snap into place.

Apparently the tavern at one time was a hideout for bootleggers who operated the place as a gambling joint also, and the innocent appearing bedroom was provided in case of raids.

Costello, rotund member of the famous comedy team, attempts to bed himself down in the room with hilarious results, supplying one of the funniest sequences of the picture.



Ginger Rogers, Academy Award winner

By John Miehle

Motion Pictures in Defense program

THROUGH THE AUSPICES of the Research Department of the Motion Picture Academy of Arts and Sciences the motion picture industry will do its share in contributing to the defense program upon which the United States is now embarked.

Arriving here recently was Major General James P. Mauborgne whose duties will be to explain the wishes of the United States Army in connection with production of motion picture film to be utilized in the national defense program. Also arrived are Colonel Major John L. Ballentyne of the Infantry and Colonel Gordon P. Savoy of the Cavalry. Major Charles Strodter, Signal Corps Officer, has been assigned to Hollywood to act as liaison officer.

Major General Mauborgne has made it known that through the use of motion picture film, men will be trained four to five times faster than under normal conditions. Of significant help will be the use of motion pictures in explaining the operations of mechanical devices and equipment, as well as discovering faults these may have when employed in maneuvers and war tactics, all of which is covered in every phase by the motion picture cameraman.

The Major advised that the Signal Corps of the U. S. Army is not as well equipped as Hollywood to render this service where it will be done on a cost basis without any profit to the motion picture industry. This will be the contribution of the motion picture industry to the national defense program. Certain writers have agreed to contribute their services but the lower bracket working class which will be composed of all technical help will be paid in accordance with the union scale. At present there are writers working with the respective army officials in planning the types of pictures that ought to be made. There will be no press releases or publicity given these pictures. They will be the property of the Army and those taking part in the creation of these pictures will be servants of the United States Government. Naturally it will consist of work in 35 millimeters. There is the possibility that some of it may be done in 16 millimeter. Laboratory facilities have already been set up and different studios will be assigned their particular job. The General emphasized one important and surprising statement; that is, that the contribution of the motion picture indusry to defense can be made to be more important than that of the steel industry.

George Barnes, Winner, Academy Award

WINNER OF THE Academy Award for the best photographic contribution, in black and white, was George Barnes, much respected member of Local 659, for his notable work on Selznick International Production, "Rebecca."

Award for the best color photography was bestowed upon George Perinal for his outstanding work on the Alexander Korda Production, "Thief of Bagdad." Perinal probably will be among the last to learn of the honor, as he is now with the British armed forces.

Sometime ago International Photographer published a story dealing with the activities of Lawrence Butler, who was responsible for so much of the special effects in "Thief of Bagdad." Recognition of his work by International Photographer was confirmed by the award to Butler of the Academy plaque for special effects. There is much more we will hear about from Larry Butler.

By coincidence Joe Rucker, newsreel cameraman for Paramount, who went to the South Pole with Byrd on his first expedition and was awarded not only an Oscar but the Congressional Medal, was there to photograph George Barnes, winner of the award for black and white photography.

The change in the manner of presenting the awards this year caused much "sitting on the edge of chairs." The tabulations by the auditors were not announced or known to anyone until the awards actually were presented at the dinner.

The outstanding event at the banquet was the talk delivered by President Roosevelt in which he addressed the industry and made known his regard for its importance in our modern civilization and its significance in rendering services in the National Defense Program.



George Barnes, Member Local 659, awarded the Academy "Oscar" for best black and white photography.



Sandstone chimneys of Coal Canyon, Arizona, form the labyrinth hideaway of Billy the Kid, desperado of the 1880's. Actual locale of "The Outlaw." Photos by Ira Hoke.



Sheriff Pat Garrett and his posse follow a Crow Indian tracker to the lair of Billy the Kid. Picture shot from great height. An idea of the immensity of these nature formed monuments may be gained by comparison with the horses and their riders in lower part of picture.

Hughes' new finds

Jack Beutel, 21, of Dallas, Texas and Jane Russell, 19, of Van Nuys, California, are the screen's newest stars, discovered by Howard Hughes, who brought to motion pictures Jean Harlow and Paul Muni. In Hughes' production, "The Outlaw," Jack makes his screen debut as Billy the Kid, with Jane as his quick-tempered sweetheart, Rio. Neither Jane nor Jack has ever been in motion pictures before. Jane graduated from Van Nuys High School a little more than a year ago, and sought some kind of work which would help her to support her widowed mother and four brothers. Between herself and her mother, Jane managed to earn enough as a photographer's model to take a dramatics course. Modelling, however, proved a precarious calling, so Jane accepted a job as a $10 week receptionist, working afternoons, in a doctor's office. It was then that she got a chance to try for the leading feminine role in "The Outlaw," since Hughes was searching the nation for two completely new stars. Jack, meanwhile, was sleeping in an apartment with four other job-hunting youths, with a mattress on the floor as his boudoir. He had come to Hollywood from Dallas with the idea of crashing films, but had no success whatever until the Hughes talent search gave him the opportunity to shoot for stardom. Never before in Hollywood history have two newcomers been placed in the top roles of a picture costing more than a million dollars. In "The Outlaw" cast with Jane and Jack are Thomas Mitchell, Walter Huston and Mimi Aguglia. The picture is being released through Twentieth Century-Fox.

RKO's "Parachute Battalion"

Harry Carey, veteran character actor who has scored innumerable triumphs on the screen, has been signed by RKO Radio for a major role in "Parachute Battalion," which Producer Howard Benedict expects to send before cameras early next month.

"Parachute Battalion," based on a screen play by John Twist and Capt. Hugh Fite, U. S. Air Corps, will be the first motion picture to chronicle the dare-devil lives led by members of the United States Army's newly-formed parachute troops.

Leslie Goodwins, who will direct the new feature, is now en route to Fort Benning, Ga., with a technical crew to film backgrounds for the picture.









Top left: Walter Huston as "Doc Holliday," card sharper and gambler of the 80's, friend and pal of Billy the Kid. Top right: Tom Mitchell as Sheriff Pat Garrett. (Stills by Ira Hoke.) Lower left: Jane Russell as the sweetheart of Billy the Kid (still by Tad Gillum) and lower right The Kid himself as played by Jack Beutel (still by Ira Hoke.)

MIMURA IN JAPAN

October 31, 1940.

Mr. Herbert Aller and Members of Local 659: "Long time no write—excuse me, sirs." It has been over three years since I visited Hollywood last and since then I presume that great improvements in the making of pictures have taken place. For myself, I'm kept quite busy most of the time shooting one picture after another.

In our Toho Studios twenty-four cameramen are under contract at present and they are quite busy, too. Thirteen of them are for regular feature pictures; seven are assigned for short subjects and the rest work for the special effects department. Usually seven to nine features are scheduled daily throughout the year. Seven NC type Mitchell cameras, three standard Mitchells and nine other Bell & Howell and Super Parvo cameras are in use.

I have shot three of the much talked about pictures this year, namely, "Princess Snake," "The Night in China" and "Son-Go-Cue." The first one is a costume play and broke the box office record in many years. The second was made mostly in China, where we were located nearly two months. The story was laid in Shanghai, with Japanese seamen and a Chinese girl taking the parts. One of the most popular Chinese stars, Lee Shang Lang, played the part of the girl. She made such a hit in this picture that we borrowed her again in "Son-Go-Cue."

The story of "Son-Go-Cue" or "The Adventures of Western Travel" was taken from the famous old Chinese fantasy well known to the Oriental people, especially for the children. The three main characters are the monkey, the hog and the sea monster.

Now I'm working on an amazing story of "The Horse." It resembles the popular book "Yearling," telling of the country people and their love for the animal. The shooting of this picture started the early part of September, 1939, because the story calls for four seasons: Fall, Winter, Spring and Summer, then back to Fall again.

In Japan, under present conditions, we are not able to see the latest American pictures, but quite old ones are coming in one by one. "The Stage Coach" and "Stanley and Livingston" made great hits lately and the work of both Bert Glennon and George Barnes was praised by theatregoers here.

In conclusion, I hope that you and the boys in the local are enjoying good health and here is wishing you all the best of luck. I am enclosing a few stills from my latest pictures and I hope you will enjoy them.

Yours sincerely,

HARRY A. MIMURA,

Camera Dept., Toho Studios,
100 Kitami Setagaya, Tokyo, Japan









Upper left: Harry Mimura at the camera; right: Queen of the harem enjoys the dancing; lower left: Big Boy Hog and the popular Chinese star, Lee Shang Lang; right: the fantastic woods of the fairy tale.

Some Historical Facts

By IRA HOKE

A long time ago, 22 years to be exact, when I shot stills for the old Jack Hoxie series of westerns, the up and coming sensitive emulsion was the Hammer Dry Plate and the Seed 40. Not that we ever had use for more than one emulsion on a picture in those days, but there was always the usual controversy among us to whom made the best negatives, and on what.

Development time and temperature did not count much, as exposure latitude nearly always made it possible for something to develop into visibility upon the plate which made a print of sorts, which we fondly termed a "production still."

Shortly after the war some smart boys at the Eastman plant in Rochester figured up a new fangled high speed emulsion which they rolled out on sheet celluloid instead of glass.

Over on the old Fox lot at Western and Sunset I took out the first Buck Jones show with the new film loaded in special sheaths in my old plate holders. It wasn't much faster than the Standard Orthos we had previously used, but it was a lot lighter, and I remember that the cut film negatives for the whole picture weighed just about the same as a single dozen of the old glass plates.

From then on I was sold on the new product and when I went over to director Ed LeSaint's company as still man to Shirley Mason, camera department head, Frank Burns, outfitted me with the new thin cut film holders made especially for the new product.

I shall never forget that picture. A great load had been lifted from my heart as well as from my camera case, for the new "Par Speed" film actually did take a lot less exposure to produce a good negative.

That was fortunate with Shirley for she used to have the jitters after a long day's work, and the afternoon stills would have often been failures had it not been for that little speed boost that the Eastman Kodak boys had packed in the new film.

Along in the early twenties our only piece of equipment was the 8 x 10 view camera, but when I went over to the Robertson-Cole lot with Harry Carey I began to use the faster cut film with remarkable success in action pictures with the Graflex. That camera not only began to make use of its fast shutter, but more important, became light enough to chase horses, Indians and cowboys with. I think the Graflex must have lost about six pounds overnight when cut film supplanted glass plates in its magazines.

Later came Alberta Vaughn and her colorful college girls, and I tried a few of the new Panchromatic cut films. Portrait

(Continued on page 18)

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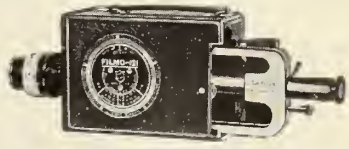
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IDA LUPINO

By Scotty Welbourne

studio portraits

By CARLISLE JONES

Whether he is photographing the newest cutie on the Warner lot or the Statue of Liberty, Charles Scott Welbourne, head portrait photographer of that studio, believes that the proper use of light and shadow is the answer to most of his problems.

Light and shadow, explains Welburne, is all that may make the expensive—and expressive—face of a Bette Davis, for example, different from the ordinary face of Sophie Glutz, that long-suffering nonentity who is always available for comparative purposes. The varieties and possibilities of light and shadow for the camera, he adds, never have been exhausted by Hollywood or by any photographer.

The commercial portrait photographer and the studio portrait man have much in common, but they must work differently because they have different objectives.

The commercial artist works to get realism. What he wants, because he knows it will please his customers, is a more or less exact likeness.

The studio photographer, on the other hand, is willing—even anxious—to sacrifice an exact likeness for a glamorous appearance, a seductive smile, a menacing glare or whatever it is his subject has the most of.

The studio photographer works with the world's most expensive faces and he knows he can add or take away many thousands of dollars in value by the way he pictures those faces.

Mood and frame of mind of a subject are vital to good results, Welbourne believes. Almost as important as lighting but not quite. The photographer, once he has started the sitting, shouldn't putter too much with the camera because the faster he works the better will be the animation and expression of the subject.

The photographer can't fit every subject into the same mold, he adds.

"Not every player looks good on a bear rug."

It is important, Scotty thinks, to get and keep his subjects in the right mood. He has a phonograph handy and a supply of records—all kinds of records—so that he can fit his music to the mood the player is in or that Scotty wants the player to feel.

The man who has photographed almost every one of the great and near-great names in Hollywood, believes that he should "press the bulb" when the general effect he wants is before the camera regardless of small details. He likes to think that each picture tells a story but he won't attempt to interpret all the pictures he makes.

Scotty once made 686 pictures of Carole Lombard in one day. This is not as extravagant as it sounds, however, because the demand for pictures of motion picture celebrities is greater than most people realize. A fleeting, twisted smile on Errol Flynn's handsome face caught by Scotty's camera, will eventually please a Hula maiden, a Chinese peasant and a hundred other types and nationalities. It may circulate for ten years.

In his big, square, lofty gallery on the Warner lot, Scotty doesn't think of all these things before snapping each picture. He is a young man but an old hand at the business and most of it comes to him by habit now. It is only when he is asked to explain his work that he tells, haltingly, of his theories and practices.

"It's just light and shadow," he insists, "whether the subject is Merle Oberon or the Statue of Liberty. Only I would rather photograph Miss Oberon. Or even Jimmy Cagney. Jimmy's face has enough animation to keep it interesting—even if it isn't very beautiful."

One other thing is important to the studio photographer, in Scotty's expert opinion. The photograph or the photographer never must overshadow the subject in importance. He believes it is important that his credit line read, "The lovely Olivia de Havilland — portrait by Scotty Welbourne," and not "A new Welbourne portrait of Olivia de Havilland."

He thinks the latter credit line "puts the cart before the horse," and he says this without meaning to call Olivia a horse. He thinks that the studio portrait man must always be of secondary importance to the star he pictures. That's one reason he holds the job he does.



Scotty Welbourne "shooting" Ann Sheridan







Brenda Marshall
Olivia de Havilland



Joan Leslie
Sylvia Sidney

See story on preceding page









Ann Sheridan
Merle Oberon

Rita Hayworth
Rosemary Lane

color with kodachrome

By BURR McGREGOR

The author of this article, writing under the pseudonym of Burr McGregor, is a well known cameraman. He invites any questions on this subject. (Editorial Note.)

At least, once in your experience, you have stopped to gaze upon the depth and beauty of a colorful scene, or, perhaps it was one of those sublime moments, just before the close of day, when Nature seemed to stop for a moment to paint the sunlit sky in golden hues, blending off into soft pastel shades of bluish-purple, as the golden orb gently dipped below a dark silhouetted ridge of a distant mountain range, pink-tinting soft cloud edges into myriad hues of color mystery; and while you beheld this farewell to a day, you bowed your little self before this grand requiem of panorama, regretting your camera was loaded with a film that could only record this passing display in tones of gray: the more regretful, because thereafter, you could only recall this phenomenon in memory, it would never be repeated the same.

It is such a show, and others of less grandeur, that have intensified the increasing color-mindedness of aspiring color fans to the awakening of their artistic souls.

There is romance in color photography! Its fascinating appeal has stimulated competitive expression from almost every commercial and entertaining activity of thought throughout the civilized world.

The invention of Kodachrome has opened unlimited possibilities to the realm of scientific research for analytical study, resulting in discoveries of untold benefits to mankind and his progress.

Great commercial enterprises employ this product, because of the fidelity of color rendering, to educate potential purchasers of the excellence of their merchandise and to influence greater trade demands.

This medium of color has become one of the most influential factors of education; unconscious education, due to the color penetrating to the mind to leave a lasting impression more impressive than the monochrome picture, or written word. A correct rendition of distant places, and strange people, are brought into home circles, as well as the auditorium, with a penetrating fact of truth. To the thirsting mind for knowledge it has created a source of educational entertainment, revealing hidden secrets of scientific lore.

It is to the serious minded amateur photographer that Kodachrome has opened the vast fields of romantic adventure: fields of unlimited opportunity for the cultivation and expression of his artistic instinct to analyze color composition. The entire realm of animate, and inanimate life, is spread out ready to parade before his camera in an unending procession of enchanting color mystery, limited only by his creative genius to record with unerring fidelity.

Kodachrome, is the unfailing companion of travelers, trusting its collective power to faithfully reproduce the panoramic views, and incidents, of their wandering experiences with a perpetual record of the romances, and adventures, that have dropped behind them to be brought forth again and again and vividly re-lived in resurrected memory.

No other contribution to the science of photography has become so popular or can produce such faithful color reproduction for so little expense and mental effort.

The ardent photographic devotee who has experienced the satisfaction of ordinary photographic reproduction need not hesitate to venture into the realm of color with Kodachrome in his camera. His experiences in black and white photography will be to his advantage, and his results will be infinitely more pleasing; he will learn that color is the contrast he should seek.

Many aspirants have hestitated to venture forth into color photography because of a false mystery with which it has been expounded, as well as a prohibitive expense experiment: True, the expense is a trifle more than that of black and white, and the thoughtful effort must be more painstaking, but the results, and that is what counts in any effort, are extremely gratifying.

There are "candid" cameras on the market retailing at only a few dollars with which excellent results can be obtained by the careful student-operator. Color reproductions have been created with such cameras that have equaled exhibition quality, and have returned dividends, not only of pleasurable satisfaction, but gratifying in cash.

Clean, clear enlargements are successfully reproduced from Kodachrome transparencies without loss of detail, or a trace of unpleasant grain. Reproductions from the original color to black and white monochrome, of commercial quality, is accomplished with ease.

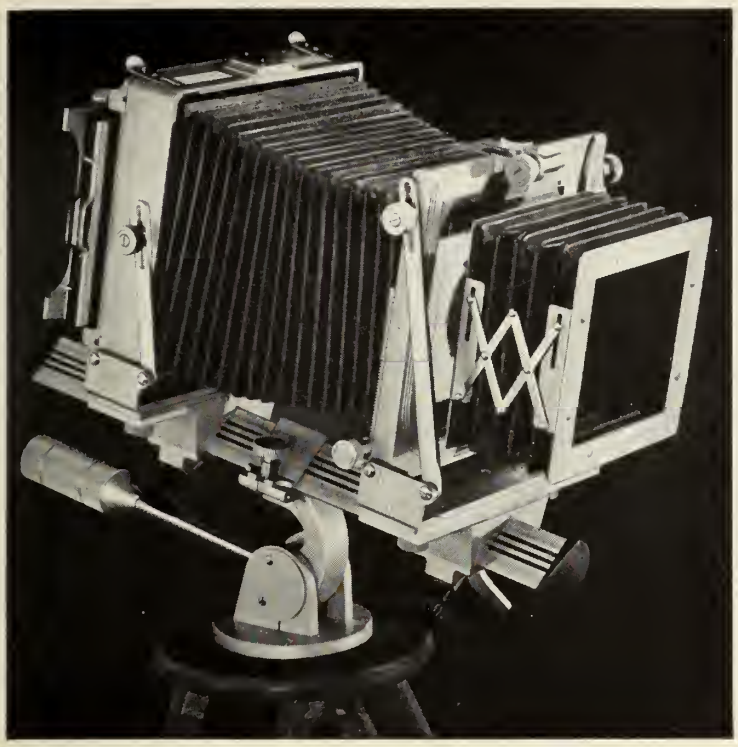
The enthusiasts who yearns for movie action, with his 8mm. or 16 mm. camera, can enjoy raptures of delight through the reproduction of scenes, and objects, as they flash over the projection screen in faithful shades of soft pastel, or brilliant sharp colors of reminiscent experiences.

processing kodachrome

In a lecture at the Franklin Institute, Philadelphia, on December 28, Dr. C. E. K. Mees, Vice-President in Charge of Research and Development for the Eastman Kodak Company, disclosed that Kodachrome film is now processed by a method different from that employed when it was first brought out in 1935. The method is quicker than that originally used, better quality results are secured, and there is less risk of damage to the film because it is handled fewer times in the processing.

Kodachrome film carries three superimposed sensitive layers. The top layer responds to blue light, the middle layer to green, and the bottom to red. In exposure, three-color separations are thus effected in the depth of the film coating. When the film is processed, positive images of dye are formed in each of the three layers. The film is first developed to give a black negative silver image in all layers, and is then redeveloped by the so-called reversal process in special developers which produce the positive dye images. The color of the image in a particular layer is complementary to that of the light by which the layer was exposed: that is, the image in the bottom layer is processed to give a blue-green (or cyan) dye, that in the middle layer to a magenta dye, and that in the top layer to a yellow dye.

One of the most ingenious aspects of Kodachrome processing lies in the method by which the three different dyes are produced and confined to the layers to which they belong. The dyes are produced by using so-called "coupler developers," in which the image is developed to black silver which is produced in association with a dye. The color of the dye can be determined by properly selecting the components of the developer. In the early method of processing Kodachrome, the colors were confined to their proper layers in the following manner: After negative development, the silver was bleached and the remaining silver bromide redeveloped as in the reversal process to give silver and cyan dye in all three layers. By a process of controlled diffusion, the dye in the two upper layers was destroyed, and the silver in these layers reconverted to silver halide. The two upper layers were then developed



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in a solution which produced black silver in association with a magenta dye. By a second bleach bath, the dye in the top layer was destroyed and the silver reconverted to silver halide. The top layer was then developed in a solution which produced black silver and a yellow dye. As a final step, the silver was removed from all three layers, leaving only the dye images.

The earlier method required three separate developments on three continuous processing machines and drying between the machines. In the new method the film is processed continuously on a single machine. First it is developed to give a black-and-white negative. The three layers are so sensitized that the sensitizing dyes are not harmed by this first development, and, therefore, the layers are still sensitive respectively to red, green and blue light in later stages of the processing. After the negative development, the film moves through the machine to a point where it is exposed to red light through the back. This affects only the back layer, which is red sensitive, and the film is then passed to a cyan developer which develops color only in the back layer without affecting the two upper layers. After this stage, the film is exposed to blue light from above. This exposure affects only the top layer, which can then be developed in a solution producing a yellow dye. Finally, the middle layer is developed to a magenta dye.

As before, silver is produced when these dye developers function, so this has to be removed from all three layers, leaving a final film having only three superposed dye images. After processing, the film is dried, and it is returned to the photographer for projection in amateur motion picture machines, miniature slide projectors, etc.

Bull Fighters Must Be Well Dressed

Even Alice Faye when she played Lillian Russell didn't have a layout of costumes like Tyrone Power will wear in his next movie.

Twentieth Century-Fox will give Tyrone 24 costumes, eight of which cost $2,000 each, for his role as a matador in "Blood and Sand" which the studio will film in Technicolor.

Even at $2,000 an outfit, the studio won't be indulging in any extravagant whims. Most matador costumes run between $5,000 and $10,000 each, including precious stones, and one that Armillita, the most famous of all bull fighters, will wear in "Blood and Sand" cost $23,000.

The studio's wardrobe department has kept 40 girls busy for the last six weeks making the costumes. Each outfit includes inner and outer stockings, pumps, silk knee breeches, silk shirt, four yards of waist sash, a gold-embroidered waistcoat studded with gems, a hat, and a cape of silk that is covered with gold embroidery.

Tyrone's wardrobe budget will be triple that of Linda Darnell who plays opposite him.

No More Typing

A Hollywood which used to be accused of typing the stars too much, has changed policy so radically that nowadays you can even find Kay Francis playing a slinky adventuress instead of a glamour girl.

It wasn't always so, of course. Until Producer-Director Herbert Wilcox came along to give her straight roles, ZaSu Pitts was mainly a pair of fluttery hands. William Powell once cancelled his contract because the movies made him a suave society heavy.

But nowadays producers recognize a good player is a versatile one—or should be. Players themselves had a lot to do with forcing the change. Ginger Rogers wouldn't stay typed, but hung up the dancing shoes which brought her fame to play dramatic roles—and now look at her "Kitty Foyle," which placed Ginger in top bracket as winner of the Academy Award.

Carole Lombard refused to be tagged screwball forever. Bette Davis insisted on varying roles.

The men, too. Robert Montgomery shucked playboy roles for the murderer in his memorable "Night Must Fall." Robert Taylor demands rough-and-tough parts. John Barrymore lends his profile to comedy.

As marked as any player-transition, if not the most pronounced, is what Kay Francis has done with her roles.

Of all the glamour girls, she seemed the one most fixed. But she also decided to show her versatility, first played that heavy with Cary Grant and Carole Lombard, swung then to the role of the motherly Jo in "Little Men." Now—well, wait till the fans see her as the adventuress in RKO Radio's "Play Girl"—the role of a woman who lived by fascinating men until the years made her change her tactics.

This one really proves the typing bugaboo has joined the dodo.

Historical Facts

(Continued from page 11)

Pan was a success from the first, and I used it for years, to be exact until the advent several years ago of Super XX.

Up to the coming of stereo backgrounds one emulsion was usually satisfactory for an entire production, but the stereo presented a chance for the still men to spread themselves. I followed the crowd. I made background negatives on several films, and still do.

For fine grain I use Panatomic X or Portrait Pan. For fine shadow detail, Super Panchro Press. I find these three Eastman films gave me a fine selection that react differently enough to various filters that I can give the process department almost any desired effect.

I carry both 5 x 7 and 8 x 10 film for backgrounds, and use the 14″ Ektar coated lens exclusively. This new piece of equipment makes possible stereo plates of hitherto unsurpassed brilliance, roundness, and sharpness over the entire field.

I've had a lot of success with the new coated Ektar on Kodachrome. It produces a color transparency of that lovely stereoscopic quality, and intense sharpness of detail that we all strive for since color has been added to our bag of tricks.

Finally I include now-a-days several dozen Eastman Infra Red cut film for cloud effect backgrounds, and occasionally use it to shoot an Indian if he happens to be backed up against the skyline where he can't fight back.

A Good Part At The Right Time

Joan Fontaine, now co-starring with Cary Grant at RKO Radio in the Alfred Hitchcock's new thriller, "Before the Fact," is movietown's leading example of what one good part at the right time will do for a player.

It was her role in the recent "Rebecca," which Hitchcock directed, that lifted her from stock player ranks to stardom . . . before that, during three years on the screen, she'd played in stock at the same studio where now she's starring, later had been a freelance player.

"Rebecca" not only brought stardom but one of the five nominations for "best actress of 1940" voted on by members of the Academy of Motion Picture Arts and Sciences.

Joan Blondell To Pose For Sculptor

On the commission of the American Mothers' Society of New York, which has voted Joan Blondell "the most glamurous mother in America" for the second consecutive year, Yucca Salamunich, eminent Jugo-Slavian sculptor, arrived here last week to execute a bust of the Hollywood star.

Jack Oakie Signed for "Navy Blues"

● Jack Oakie has been signed by Warner Bros. to play the leading featured role opposite Eddie Albert in "Navy Blues." Slated for production during the early spring, "Navy Blues" will be laid in and around the San Diego naval base and on the decks of various United States men-of-war. An original story by Arthur Horman is being adapted for the screen.

New Burke & James Catalogue

A brand new 92 page Burke & James catalogue announcing several new and improved items is now available to readers of International Photographer. Among the new important items are a Solar model IV enlarger for 3¼x4¼ negatives or smaller, the sensational new Grover Flexible camera, a silent mercury contact foot switch, and a Studio camera back for 4x5 and 5x7 Solar enlargers. Also included is a listing of new and used lenses from one of the nations finest stocks. Ask for free catalogue No. 141-N from Burke & James, Inc., 223 W. Madison St., Chicago, Illinois.

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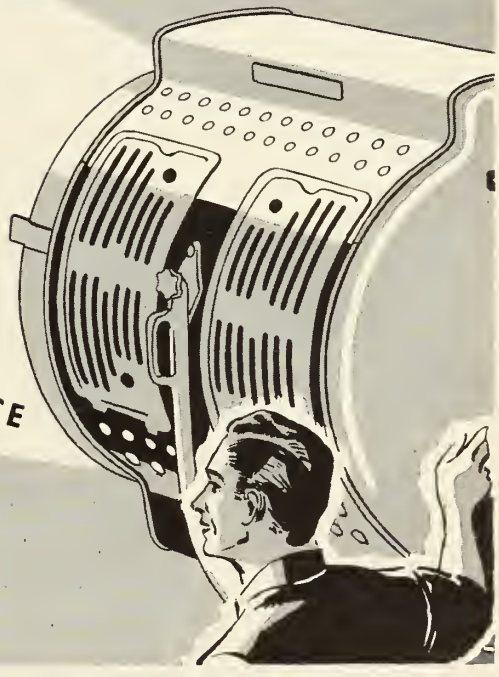
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ON LOCATION FOR BACKGROUNDS

By HARRY PERRY

Harry Perry started as a cameraman back in 1918. He has made five trips back and forth to Europe in the last few years for different Hollywood studios. When the war started he was making shots around Monte Carlo for Selznick, but was forced to leave in September, 1939, before his work was finished. The authorities would not permit him to work in the district because of troop movements. He returned home on a boat so crowded that he, with about fifty others, slept on cots in the bottom of the swimming pool (minus the water).

During the past six or seven years most of his work has been on location trips, last year going to the Bahamas and New York for backgrounds for "Honeymoon in Bali."

Despite the fact that Perry is a globe trotter who has visited countries known and unknown, he always finds his work exciting and enjoys each new experience.—(EDITORIAL NOTE.)

LAST OCTOBER Paramount sent me to New York to photograph backgrounds for "The New Yorker," directed by Charles Vidor. Stanley Goldsmith, assistant director, was in charge, accompanied by Curtis Mick, production manager. We were successful in making some difficult shots; quite a few on Fifth Avenue around the RCA Building, where they had to hold the crowd back for minutes at a time. This was a problem, especially at noon, which was the only time we could work to get the light across Fifth Avenue.

Some night shots were made on Fifth Avenue, shooting across from Saks Store toward the RCA Building. On these we used lights on the Avenue and the buildings across the street.

Another shot presenting complications was Times Square just at dusk. We used a few Photo-floods for the foreground action. All the big signs were wanted, including Wrigley's and the Paramount Theatre and the traffic going across Forty-second Street at Broadway. By the time we got started thousands of people had crowded up and it took a lot of policemen to keep them from running the camera down. Finally we had to get on a platform so they would not push the camera over.

We took several shots from the Brooklyn Bridge, doubling in the lights of the Battery and up-town building lights and fortunately the sway of the bridge did not affect the double exposure at all.

After finishing in New York I received word to go to the West Indies for location shots with a 16mm camera for a picture to be made by E. H. Griffith, called "Dildo Cay." E. D. Leshin, production manager in charge of assignment, was sent from the studio to New York to complete arrangements.

We flew to Miami, where we stayed one day, then took the Pan American Air Liner to Port au Prince, Haiti. Upon our arrival there we found we had missed, by just one day, the monthly liner that stops at the Grand Turk Islands on its way to New York. We had to get to these islands, so it was up to us to find a boat that would take us there. We spent two or three days at Port au Prince, trying to find a boat capable of making the trip, then made a very interesting drive across the island, about two hundred miles over very rough roads. The villages were fascinating, with their grass covered houses and little naked children running around. At one spot by the side of the road we passed a native girl of about eighteen sunning her naked body on the bank of a small stream and so unself-conscious that she scarcely noticed us when we went by.

We had to ford several streams with the car. After a heavy rain this would have been impossible. Our destination was Cap Haiti, where we arrived late in the evening.

Now we had to find a boat with a motor. Sounds simple, but we were unable to accomplish it. All of the boats were of the plain sail type, manned by natives, so finally we were forced to engage one of these. We got the best boat to be had, about forty feet long and manned by a crew of six natives. There were no lights, no life preservers, no cabin. A light leaky row boat was carried which would have accommodated only half the crew if we had needed it.

We started out for Grand Turk Islands about four o'clock in the afternoon, ran into a heavy wind the first night—which took us along like an express train—as well as making us feel very bad for quite a while. Then due to the lack of lights we had the experience of being almost run down by a liner. We were saved by the use of my flashlight, which I flashed back and forth. They passed about fifty feet to one side of us.

We were supposed to get to our destination next day, but did not make it until the following Monday. The second night out we ran into some reefs and had to anchor there all night. The third day, Sunday, we were becalmed for twenty hours, about twenty miles from our goal. Finally a light breeze came up and it took us five hours to make the twenty miles, reaching the islands called Grand Turk and Salt Cay, about which the book "Dildo Cay" was written.

On Grand Turk Island we were the guests of the English Commissioner, as there are no hotels nor accommodations.

In Salt Cay we were the guests of the Herriott family. There are about three hundred and fifty native blacks on the island and there are six people in the Herriott family, the only white people there. The Herriott family have been in the salt business there since 1820. They were very helpful to us in getting our shots. The pictures we made at Salt Cay, covering several hundred acres of ground, showed the evaporation tanks and the system of making salt. They have windmills for power, carrying the water in and out of the different tanks. It also was interesting to watch them load sacks of salt into little lighters or sailboats, taking them to the big liner and transferring them to the hold.

After finishing there we had to get to another island twenty miles away, called East Harbor. This necessitated another rough sailboat ride of about five hours. We were in East Harbor for two days. Then Paramount Studios sent a plane to pick us up and take us seven hundred miles to Miami. Upon our arrival there we went to Key West along the new automobile road which was built several years ago after a hurricane took out the railroad. We took pictures of the town, the old residences, coral reefs, and some in the vicinity of the Mangrove Islands, near Key West, location shots for research work for a production to be made by Cecil B. De Mille.

We left Key West on Christmas morning, got back to Miami about noon, stayed the afternoon, then took the train that evening for St. Augustine, Florida, where we went to see the Marine Gardens, about twenty miles south of the city. Here we made shots for possible use in under-water scenes for "Reap the Wild Wind."

These gardens are very unusual and interesting. They are in two very large tanks, with all the most modern ways and means of temperature control and proper circulation of water. Both tanks have a lot of flora and coral for backgrounds, which make it look like the bottom of the sea.

In one of the tanks are many large porpoises, lots of turtles and other fish which are not ferocious.

On the bottom of the tank and along the sides are probably a hundred portholes through which visitors may watch the fish. A diver goes down and feeds them. The porpoises are very playful and take fish from his hand.

In the bottom of the other tank, swimming around the wrecked hull of a ship, are seven or eight man-eating sharks, two big baracuda and some morays, and many other varieties of fish, all of which are ferocious. The diver goes down to this tank also and entertains the spectators who look through the portholes. There probably are five hundred to a thousand visitors every day who pay a dollar and ten cents admission, and it is well worth the price.

IN PERFECT AGREEMENT

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Some Notes on Color

There are three nerve fibrils in the human eye: one of them is sensitive to red, the second to yellow, and the third to blue. All of the colors as we see them are made up of various combinations of these three basic colors: magenta, for example, exciting the red and the blue fibrils simultaneously and giving rise to the sensation of the purplish hue as we know it: any variation in the shade of magenta will cause a variation in the ratio of the excitation of these two fibrils and will cause a corresponding response.

All color photography consists basically of breaking down the original scene into its components so that these components may be recorded photographically, and then combining them again for the final print. This process is known as color separation. All of the many methods of color photography have this process of color separation in common, though their methods may—and do—vary considerably.

The earliest and simplest form of color photography was employed in still photography. Here a still life object was photographed on *three different negatives*—one negative through a red filter, one through yellow, and one through blue. All three of the negatives so obtained were black and white. The final color print was obtained by making prints from these negatives on thin tissues which were pigmented with a color determined by the color of the filter used to expose that particular negative, and by combining these three tissues.

The exposure of three separate negatives at three different times precludes the possibility of taking moving objects, and for a time it was possible to photograph only still life objects. With the poising of the problem of obtaining color separation negatives simultaneously, several different methods presented themselves. The simplest of these is known as the bi-pack method. In this system two films are used —one of them (the one towards the lens) is a color blind material not sensitive to red and having a red backing, against which is placed a standard panchromatic emulsion which is highly sensitive to red. Color separation is obtained by recording the blue and yellow (or green) light on the first film, its blindness to red light creating the same effect as placing a green filter in front of this emulsion. The green light is then filtered out by the red backing on this film acting as a filter for the panchromatic emulsion behind it. This gives us what is known as a two-color process, because only two films are used in the color separation.

A second process developed is the Technicolor process. In this system three color separation negative are obtained. Two prisms are used, and their hypotenti cemented together so that their appearance resembles a cube. By means of a coating on the surfaces in contact we have a unit which acts as a partial transmitter and a partial refractor. In other words part of the light entering the prisms from the lens will go right on through while part of it will be reflected to one side. Having divided the light in this manner, it is possible to place filters in any desired combination, utilizing the bi-pack principle of two films on one side and a single film on the other. Here, too, the printing process is one of pigmentation of the prints from black and white negatives.

Unfortunately, these two basic principles are not adapted to amateur work. They are expensive, and their complicated nature would not make for the convenience and light weight that is of such consideration in amateur work. It was apparent, then, that an entirely different approach would have to be made to the problem, in order to secure direct color on a reversible film with no appurtenances. The old Kodacolor process, which did make it possible to get direct color on reversible film, had the disadvantages of being very grainy, not being sharp, being very slow, and requiring special filters not only on the camera but on the projector as well—and the ultimate result was only mediocre color.

Kodachrome, seems to have achieved the ideal. It is needle-sharp, capable of perfect color rendition, needs no corrective filters if the properly balanced emulsion (either interior or exterior) is used for the condition at hand, needs nothing in the way of projector gadgets, is reasonably fast, and has no grain.

While the exact processes involved in Kodachrome are a manufacturer's secret, the known facts should make it possible to present a working knowledge of the system.

The sensitive emulsion on Kodachrome consists of three separate emulsions, cemented together by a very thin layer. Each one is sensitive to one of the primary colors, allowing for some overlap. Underneath the coating adjacent to the lens is a thin coating constituting a yellow filter. It is in this manner that the actual separation is achieved. When Kodachrome is developed, it is first treated in the usual manner of a reversible film—that is, it is first developed negative, then the reduced silver bleached off, the film exposed to light, and developed again to obtain the positive. Up to this point there is no color on the film.

The black and white in the three-color-separation emulsions at this state corresponds to the negatives made by exposing three separate films through three filters, except, of course, that the image has already been reversed in the Kodachrome and we have a positive.

The color is obtained by the reaction of a "color developer" upon a "color coupler." We are all familiar with the sight of red rust on steel rails after a rain. When a copper penny is found in the mud it will have a greenish-blue color. Notice, too, the yellow flame after salted water has boiled over on the stove. All metals have a characteristic color, and when they are combined in a salt of the metal it becomes visible. The rain acting on the rail forms iron oxide; the water in the mud acting on the penny, copper oxide. The "table salt" in the boiling water is the salt of sodium known as sodium chloride; color is not visible until placed in a flame, when its characteristic color of yellow becomes visible. Now, in the examples of the steel rails and the copper penny we can call the rails and the penny "color couplers" and the rain and the mud "color developers." In the case of the boiling water, the salt water will be the "color coupler" and the flame the "color developer." In Kodachrome three different color couplers are used to treat the film after reversal, and these are acted upon by the color developers to obtain the desired color. Actually, the process is considerably more intricate. First, all three layers of the film are treated with one coupler and developer. A bleach is then used to remove the color from the two upper emulsions, but not on the one closest to the base. Another coupler is then used for these two layers, but not the third already colored, and this is acted upon by the color developer. The bleach is then used on the top layer, but is not permitted to act on the bottom two. A third color coupler is then used on the top layer, but not permitted to act on the two layers already colored. These color couplers are chemical compounds which, when acted upon by the color developer, will yield the color desired for that particular color-separation positive. The black and white positive permits more or less density of the color to be evident, resulting in the gradations in the original scene.

It is to be emphasized that the *exact* process is a secret of the manufacturer.

By means of varying the correction of the yellow filter underneath the first layer, we can "correct" the film for the blue light of the outdoors or the yellow light of mazdas.

Because of patent complications, Kodachrome has thus far been balanced only for photoflood light in cinema film. It has, however, been balanced for standard studio mazdas in the still films.

New B&H 2000-foot Film Reel

Completing the Bell & Howell line of 16mm. projection reels is the new, 2000-foot spring-steel reel recently introduced. The newest addition will permit an hour's continuous projection of sound film, an hour and a half of silent film. Price $4.00.



Eastman New Sound Kodascopes

Most versatile of the new "F" series of Sound Kodascopes are the FB-25 and the FB-40. These, with their higher power output (25 and 40 watts), larger single or twin speakers, soundproofed "blimp" cases and sound-mixing facilities, are eminently suited for controlled sound projection of highest quality before large assemblies.

Five New Sound Kodascopes

Five superb new 16mm sound projectors, priced from $295 to $520, and covering the widest range of school, industrial, and home needs, are announced by the Eastman Kodak Company, Rochester, New York.

Similar to one another in exterior design, but differentiated in power output and other features, these new Sound Kodascopes offer a complete line from which the lecturer, school authority, business man, sales organization, club or church group can select a model that precisely fits existing projection requirements. For each projector, a choice of six lenses is available, in focal lengths of 1 to 4 inches, to fit all the commonly-used projection distances and screen sizes.

Power output 10 watts up to 40 watts; special design for smooth film movement assures high sound quality; either variable area or variable density can be used on all models; some supplied with double speakers and sound mixing controls.

Detailed descriptive literature is available through Cine-Kodak and Kodascope dealers.

New Low Prices on Two B&H Models

The famous Bell & Howell, Filmo Master 8, all-gear drive, 8mm. projector has been reduced in price to $99.50 and Filmo Sportster 8mm. camera is now priced at $69.50. Bell & Howell states that neither quality nor features have been modified in any way.

Bell & Howell Filmo Eight "400"

The Filmo Eight "400", newest unit in the Bell & Howell 8mm. line, is just announced. Taking 8mm. reels of up to 400-foot capacity, the new "400" will present a full half hour of 8mm. movies without the interruption of changing reels.

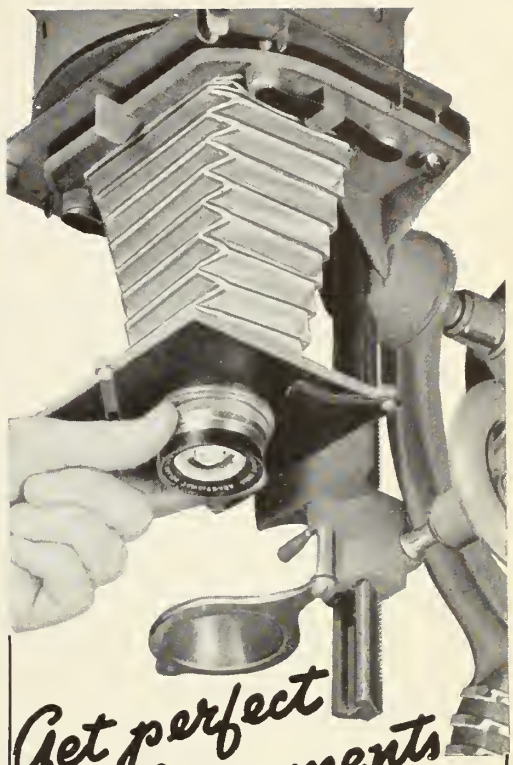
The Filmo Eight "400" is priced at $112.50; 400-foot reels and cans, 60c each. For further particulars, write to Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

New Victor Camera

A series of modifications have been worked out in the Victor 16mm. camera which the manufacturer states are of sufficient importance to warrant considering it as a new camera.

The new unit, called the Aircraft model is said to turn in results of remarkable accuracy at all speeds over a range of temperature down to zero and even lower. In fact the speed tests were made in a cold storage warehouse at —10° and the camera was left over night to simulate the toughest conditions likely to be encountered in practice. The speeds were tested with a neon type stroboscope and the settings of the instrument were not touched during the run at any

(Continued on page 28)



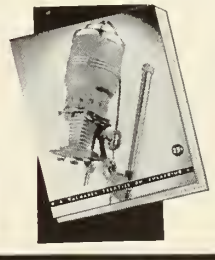
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TELEVISION



Judge Joseph Marchetti and Catherine Sibley considering pictorial composition as applied to television. The illustration being considered is from a recent issue of International Photographer. Judge Marchetti, it will be recalled, performed the first wedding ceremony to take place over television. For introduction to Miss Sibley of the University of California Extension Division read the story on this page.

The New Frontier

Among the younger artists who are one by one casting their lot with the future of Television, is Catharine Sibley, actress, writer, and former production associate of Max Reinhardt.

"My *belief* in Television," says Miss Sibley, "is that it will become one of the greatest living social forces known. It will equalize opportunity in many fields particularly in education.

"I see it becoming the great distributor of the world's goods both as far as merchandising is concerned, and making new and remunerative enterprises possible. A hint as to the new age of leisure arts in theater, dance, and design, which television might open up is to be seen in the widespread interest and profitable patronage of music that radio has brought about.

"My *fear* for Television," continues Miss Sibley, "is that during this difficult period of technical perfecting that lies immediately ahead, enough money and enough imagination will not be put back of *program experimentation*. As a consequence, before Television has had the chance to become the established favorite with the public that it deserves along its own unique rails, it may have bored its potential supporters into permanently snapping off the television knobs of their receiving sets, because of banally imitated radio programs or third rate motion picture offerings with which it is providing the home screens in the meantime.

"Tell the public of the great possibilities of Television and then show them what to look for is one-half of the answer," insists Miss Sibley. "The other half of the answer is to be found in setting up a program experimentation unit that will develop production ideas for Television usage, and this carries with it the additional responsibility of searching out the principles of a new technique—as Mr. Harry Lubcke puts it 'the to-be-developed technique of Television'."

To answer both these needs, Miss Sibley is organizing under the sponsorship of the University of California Extension Division a course called Introduction to Television Production and Acting, and also an advanced group on program experimentation.

Both courses will have their initial meetings the first week of March at the University of California Extension Headquarters, 815 South Hill Street. Information may be secured by writing or calling there.

The following is quoted from a recent radio broadcast by Miss Sibley:

"Television is itself a new frontier to be explored, and television opens the way to many other yet unexplored frontiers. Any unfulfilled wish or desire that a person has is an implicit frontier for someone to develop a scientific invention, or a new production, or a new activity to fulfill that wish or need. Television itself, as a scientific invention, is a new frontier.

It is perhaps in the same position today that the invention of the automobile was forty years ago. Forty years ago there were perhaps only a few thousand men employed in the automobile industry, whereas today, six million, by recent figures, were found to be employed in the automobile manufacturing industry, and a million additional in the accompanying oil industry.

"You see, there are two types of inventions. One type is a revolutionary idea like the telephone and the automobile, of which we have just spoken, and television itself. These inventions themselves create whole new industries, and bring about new widespread employment. The second kind of inventions merely improve existing processes and products, and in some cases this last type causes deep unemployment.

"Well, in this matter of unemployment, would television give unfavorable competition to motion pictures? No, it would not. Because television is not just another motion picture. It is a medium of its own and will be developed along lines peculiar to its own medium. For instance, the outstanding characteristic that makes television is "immediacy." Immediacy is a word that best describes that feeling of suspense and fascination that one has when looking into a television screen and knowing that what one is looking at is actually taking place right at that very moment in some part of the world—whether it be in the television studios, in the down-town area, or a horse race, or an inauguration of a president.

"The essence of television might really be defined as—Sight, plus Sound, plus Immediacy. The motion picture, on the other hand, has only sight and sound, but lacks the romance of immediacy. Television, on the other hand, is a great consumer of motion picture film, and therefore a potential customer of motion pictures. Television will never have the high-power glamour appeal of motion pictures, because television will never be able to afford the tremendous sums of money that go into the making of a first-class motion picture. Television is being developed for home use by the family fireside. This is in itself a strength and a good quality, but it will never satisfy the social urge of people to gather together in large groups. That group-satisfaction that comes when one attends a packed house at the theater, or at the local motion picture.

"In the all-important matter of defense, it is very possible that television will be the 1943 medium of military communication. It is a mechanized warfare. The African tribes used their war drums to gather their tribes for battle—the American Indians sent their smoke-fire warnings. In 1914—to jump to recent times—it was the telegraph and the crude mud wireless that kept the advance forces in constant contact with army headquarers. Now in his age of air-warfare and mechanized units, we find experiments successfully carried on transmitting airplane views to the officer in command below.

"The second new frontier, democracy, the basis on which our American system is built, would be considerably furthered if one could return to the democratic old days of the American town

hall, where each citizen looked full into the face of his town councilor, and discussed the matters that concerned them both. That was, of course, a literal government of the people. 150 years later, the coming of the television age promises again that rare opportunity of meeting with one's governmental leaders, and, face to face, thinking through matters of importance.

"When one speaks of the third new frontier distribution, one immediately thinks of the compelling job radio does in mass merchandising. Television will doubtless have its part in accelerating sales of certain products. I can even see the housewife of a morning, sitting before her television screen and viewing the bargains of the day on the second floor, we will say, of a downtown department store.

But I prefer to pass on to another phase of television distribution. It would seem that television offers one of the best means for spreading of education.

"The arts will doubtless receive a tremendous stimulus from television presentation. Recall, for a moment, the increased interest in music created by the radio. Music publishers, instrument manufacturers, teachers of music have all benefitted enormously, and there is a widespread participation in music never before known. Carry this analogy into the art of the dance, the theater, and the graphic arts. A new age in the practice of leisure arts and recreation dawns.

"There is a fourth new frontier which has been touched on only implicitly in this past discussion, and that is the frontier of personal development. The television age will not be something wherein we can all sit statically by. It will demand of all of us a development of a personal style, in order that we should be able to step up and take our parts in the television scene. Perhaps we will be merchandising for Kellogg's Corn Flakes, or giving a course over television in banking, or fashions, or how to cook. It may be that we want only to present intelligently our club's project of preserving the redwoods, or building of public opinion to take signs off the highway, or to raise a milk fund for under-privileged children next door. In this age of "saying it with pictures" we will be called upon to develop, as did the educated man and woman of a past age a pleasant literary style, and as the radio age demanded a clear agreeable voice, so the television age will expect, as a matter-of-course, an easy, magnetic personal expression. Yes, television and new frontiers are synonymous."

TELEVISION MAKE-UP

By Cessi Weaver, Make-Up Artist Television Station W6XAO

Contrary to popular opinions, television make-up no longer produces a gruesome effect. In the earlier experiments the faces did look like a Dalian conception of a Martian—blue and green crescents were interspersed with splotches of red. Gradually the make-up artists have changed the procedure as they discovered that, as in the regular moving-picture and stage make-ups, panchromatic colors are best.

Because of the intense heat from the lights in the studio it is not possible to use regular grease paint base. Max Factor's has produced a pancake base that is applied with a sponge and water as this does not smear when the actors perspire. Black pencil is used for outlining the eyes and blue-gray eye-shadow is preferable. The lipstick is a deep reddish-purple, almost black. Because television make-up is still in an experimental stage, the colors used in the application of highlights and shadows for character parts have not yet been definitely decided upon. Pancro lining for the shadows and yellow for the highlights, when well blended, have thus far given the best effect.

Because of the extensive use of close-up shots, one of the secrets to a successful make-up is to be found in the word "smooth." A smooth application of the base, a smooth blending of highlights and shadows, and a smooth finish of powder will bring the artist closest to his desired result.

One of the most difficult tasks of the television make-up artists is in the quick-change applications. Probably a record was set recently when a young lady aged twenty-five years in one minute and twenty-five seconds. The actress stood just out of camera range while Father Time was hastened by the help of the artist.

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PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,227,818—Liquid Distributing Device. *Lester Soman*, New York, assignor to Film Treatizor Corp., N. Y. Org. Appln. Apr. 11, 1935. Divided and this appln. Oct. 20, 1937. 6 Claims.

A device for applying a liquid to a film after it has left the magazine and before it has entered the projector lead, with a temperature control for controlling the flow of liquid.

No. 2,227,987—Automatic Projection Printer. *Clifton M. Tuttle* and *William Bornemann*, assignors to Eastman Kodak Co. Appln. July 26, 1938. 30 Claims.

A projection printer in which the density of the negative controls the intensity of the printing light, printing being done on an intermittent basis.

No. 2,228,247—Steering Control Mechanism. *Harry G. Cunningham*, assignor to Radio Keith Orpheum Corp. Orig. appln. July 20, 1937. Divided and this appln. June 24, 1938. 14 Claims.

A camera dolly truck having a steering mechanism for simultaneously positioning all of its wheels in parallel planes, and means for releasing only one of two parallel wheels from the steering means.

No. 2,228,479—Color Photography Apparatus. *Frederick T. O'Grady*, Flushing, N. Y. Appln. June 14, 1939. 14 Claims.

A rotary camera shutter carrying a pair of complementary color filters, with means to vary the amount of the exposure aperture each filter will cover.

No. 2,228,541 — Means For Producing Noiseless Film Splices. *Ralph Hunt Townsend* and *Robert Colby Stevens*, assignors to Twentieth Century-Fox Film Corp. Appln. Feb. 1, 1938. 4 Claims.

A continuous film printer in which the passage of a negative splice between a pair of resiliently mounted rollers operates a shutter to change the amount of light passing through the sound printer slit.

No. 2,228,643—Method of Producing Cinematograph Films. *Lewis Charles Rudkin*, Streatham, London, England. Appln. Jan. 23, 1939. In Great Britain Jan. 27, 1938. 5 Claims.

A method of printing two different sound records on a single track by varying the angle which the printing light makes with one of the films, and printing a second record near the first record.

No. 2,229,137 — Production of Color Photographs. *Wilhelm Schneider*, Germany, assignor to General Aniline & Film Corp. Appln. June 17, 1937. In Germany June 26, 1936. 3 Claims.

A method of producing color films in which a color forming dyestuff which is soluble in aqueous liquids but is incapable per se of diffusing with respect to the binding layer between the several emulsions, is incorporated in each emulsion layer, the film being exposed, reversed, and color images then formed.

No. 2,229,157—View Finder Control. *Lloyed E. Whittaker*, assignor to Technicolor Motion Picture Corp. Appln. Jan. 12, 1938. 6 Claims.

A device for adjusting an optical system mounted on a camera within a sound absorbing housing, the adjusting device extending through the housing and transmitting a minimum of sound from the housing to the camera.

No. 2,229,678—Apparatus for Producing Composite Photographs. *Otto John Lauro Seaman*, Bayside, N. Y. Appln. Dec. 23, 1937. 6 Claims.

A camera for producing composite photographs and having an objective lens, a first film located in the focal plane of the objective, a copying lens behind the first film, a beam splitter behind the copying lens, with second and third films receiving reflected and transmitted light from the beam splitter.

No. 2,229,861 — Electrical Circuit Device. *Joseph H. McNabb*, assignor to The Bell & Howell Co., Chicago, Ill. Appln. Oct. 28, 1938. 2 Claims.

An electrically operated camera having a carrying case in which a source of electrical energy is carried, with a flexible electrical connection leading from the energy source to the camera.

Clipper Plane Built At Studio

Warner Bros. technicians have duplicated in all respects except motors and interior finish a Boeing 314 trans-Atlantic clipper to match studio shots with scenes filmed at Lisbon and La Guardia Field for "Affectionately Yours."

The studio-made clipper is identical in measurements with those now in service. It is the first permanent clipper set built at any studio. Merle Oberon, Dennis Morgan and Rita Hayworth ride the clipper in "Affectionately Yours."

Another Award For Bette

Bette Davis will receive her 24th acting award of the past twelve months when Cinelandia, leading fan magazine of the Latin-American countries, presents her with its first Pan-American trophy for the best screen performance of the year. The honor is based on her work in Warner Bros.' "The Letter."

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THEY SAY---

By RELLA

● Lee Garmes is the proud father of baby girl No. 2, Carol Lee, born Christmas night.

● Ray Jones, Universal, who rates Class A amongst still cameramen, is considered one of the most efficient men in the studio business because of the fine manner in which he runs Universal's still department.

● The valley studios, Universal, Warner Bros. and Republic, were going at top speed, while across the pass the studios had the men between promises.

● Allen Davey and Eddie Snyder, first cameramen, and Rube Boyce and Nelson Cordes, assistants, off to Miami shooting scenes for 20th Century Fox on a picture of the same name.

● Joe Kealy, so well remembered as a member of Local 659, and now of Local 728, is recovering from a serious ailment at the Veterans' Hospital, Sawtelle.

● On to Sun Valley for 20th Century Fox we find J. O. Taylor and Eddie Cronjager, first cameramen; Joe MacDonald and Bill Abbott, second cameramen; Paul Mohn and Henry Cronjager, assistants and stillman Anthony Ugrin.

● George A. Yager, field examiner for the N.L.R.B., Los Angeles, is a member of Local 250, IATSE.

● Roy Ivey, Bill Heckler, Jimmie Higgins and Curly Linden are married to members of Local 705, IATSE.

● Scotty Welbourne, Skippy Sanford, Jos. Knott and Hal Mohr married to members of the Screen Actors' Guild.

● Mel Stamper, formerly in the camera department at Paramount is now supervisor in the contact department of the research laboratory at Lockheed Aircraft.

● Sam Landers of Landers Camera Rentals knows a lot of secrets about how pictures were made in D. W. Griffith's time. He promises to talk some day.

● Russell Harlan who photographs the "Hop-A-Long Cassidy" pictures once had an opportunity to be a Western star. Today he does more shooting than all the Western stars.

● Erie Mayell of Fox Movietone News is back after two and a half years spent in the Orient, where he saw war, pestilence and revolution — and little regard for humans.

● Norman Alley writes from Rio de Janeiro that it is the closest thing to Hollywood.

● Paul Ivano off to Buenos Aires as first cameraman for one of the largest South American producing companies. Paul has agreed to act as South American correspondent for International Photographer.

● Our deepest sympathy to Les Rowley in the loss of his dear wife; Joe New, his beloved daughter and William Cooper Smith, his dear brother.

● Jack Greenhalgh who owns a Luscombe P-50 monoplane is interested in forming a Local 659 Flying Club. He suggests that those interested in flying communicate with him or obtain information at the office of the local.

● Congratulations to Harvey Gould upon formation of partnership known as Mr. and Mrs. Harvey Gould.

● John R. Olsen, Salt Lake City, in town with the Missus looking over Hollywood and the motion picture studios.

● Roy Hunt and Russ Cully off to Fort Benning, Ga., where they will be joined by other members of Local 659 and members of Local 666, Chicago.

● Everett G. Burkhalter, assemblyman from the 42nd Assembly District, is a member of Local 728, IATSE.

● Buddy Weiler passing cigars on the arrival of a baby girl, making the count one and one in his family.

● John C. Leeds, Jr. about to be called to service by the United States Army Corps. John's dad is an assistant cameraman now doing special work in connection with the defense program.

● Esselle Parichy sends greetings from Miami to his many cameramen friends on the West Coast. He will be remembered as a member and contributing editor of the magazine.

16MM.

(Continued from page 23)

speed. Even at the end of the winding the speed was still so close as to cause only a very slow "creep" under the stroboscope. This is so accurate that time intervals for most scientific purposes can be obtained merely by counting frames, without the necessity for supplementary timing devices. The value of this for all research work is apparent but the new camera will be found very useful for sport pictures such as analyzing one's golf stroke.

24 Speed Added to Two B&H Cameras

Bell & Howell announces the addition of a fifth speed to the Filmo Auto Master (Turret Head), and the Auto Load Speedster, B&H 16mm. magazine loading cameras. This new speed gives these B&H cameras a speed range of from 16 to 64 frames per second. There are now five speeds — the normal 16-speed, for general use; 24-speed, for sound to be added later, etc.; 32-speed, for shooting from moving vehicles and for fast action shots; 48-speed, for semi-slow motion; and 64-speed, for beautiful, analytical slow motion study.

B&H New Quick Shift Attachment

Said to permit the owner to approximate many professional Hollywood trick shots, the new Quick Shift Zoom Attachment, now available for the Filmo Turret 8, makes possible a quick shift from one lens to another—ideal for changes from long range shots to close-ups—without stopping or moving the camera. This new Quick Shift Zoom Attachment is priced at $13.50 when ordered as original equipment. Installed on the owner's camera now in the field, the price is $16.50. The attachment must be installed at the Bell & Howell factory in Chicago.

New Eastman Suede Finish Paper

● Two new grades of Kodabromide and Kodalure paper, with an interesting new suede matte surface, and a choice of two base tints, are announced by the Eastman Kodak Company, Rochester.

The new paper surface combines an absolutely matte finish with an extremely smooth surface texture.

A further virtue is the richness of the blacks these papers yield. The suede paper is so completely matte that no specular reflection can be obtained at any angle of illumination, and this characteristic lends a strength and "punchiness" to the deepest tones that will be particularly prized in exhibition prints.

The new Kodabromide listings are: Grade V, suede, matte, cream white; and Grade W, suede, matte, old ivory. Both are double-weight, and available in contrasts No. 1, 2, and 3.

Kodalure listings are the same, in grade, finish, tint, and weight; but only the one contrast (normal) is available. Prices for the new papers are the same as for other Kodabromide and Kodalure surfaces in equivalent sizes and weights.

Agfa Ansco Sound Recording Film

A new high resolving sound recording 16mm. film has been introduced by Agfa Ansco which should go far to advance the standards for high quality sound reproduction in 16mm. motion picture work.

The principle of obtaining a surface image is similar to that employed in 35mm. motion-picture sound recording where "ultra-violet" recording has been adopted to obtain highest quality sound reproduction. Although well suited for 35mm. work, ultra-violet recording technique has not been so successful when applied to 16mm. equipment because of light-limiting factors imposed by the ultraviolet filter, smaller optical systems and light valves. Accordingly, the common "positive" type emulsion has been in general use for 16mm. sound recording.

Made in Binghamton, New York by Agfa Ansco, the new Agfa 16mm. High-Resolving Sound Recording Film is obtainable through usual sources of supply in standard lengths. It may be handled under usual positive safelights and can be developed in any clean-working developer producing good contrast, such as Agfa 20 Positive Developer.

Orson Welles to Produce "Native Son"

Orson Welles and John Houseman today announced the stage production of "Native Son," from the best selling novel by Richard Wright under the auspices of the Mercury Theatre.

Marking the renewal of stage activity for Welles, "Native Son" will be billed on Broadway as "A Mercury Production by Orson Welles," the same billing carried in his first RKO Radio motion picture, "Citizen Kane."

Welles went to New York recently to discuss the opening of "Citizen Kane" and plans for his next production with RKO heads. While there, he completed the script for his second RKO film, which will be shot largely in Mexico and is as yet untitled. With an April 1 starting date for the new picture, Welles obtained permission from George Schaefer, RKO president, to direct "Native Son," which was dramatized by Paul Green. Canada Lee, critically acclaimed in Welles' Federal Theater production of "Macbeth" with an All-Negro cast, has been signed for the "Native Son" lead, Welles announced.

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Reading down: Off coast of New Zealand, shooting Warner Bros. color film, "Swordfishing"; making Kodachrome stills of the Keeper of the Sacred Forest in Bali and some of its inhabitants, a monk and her babe; photographing a "Tashmanian Devil" while two assistants with clubs and guns stand by; set-up in plane to film dropping of supplies to party of explorers on Shiva Temple expedition in Grand Canyon. While banking a turn over the temple the plane hit an air pocket and went into a thousand-foot side slip. Forward momentum carried Shackelford and his party to safety over the edge after just grazing the tree tops.

See story on page 3

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BROWN-CALDWELL



NUDE STUDY *By William Mortensen*

THE WORLD THROUGH THE CAMERA

By JAMES B. SHACKELFORD

● During 1935-36 Shackelford was on a twelve-months' world cruise with Tay Garnett. The backgrounds he shot during that trip now are being used by Garnett in "World Cruise," being produced at Universal Studios. Shackelford built a complete film lab on the boat in a space of only seven by seven by eight feet. The high humidity, sometimes ninety-five per cent, made drying of negatives and other details of processing very difficult.

All climates were encountered on that trip, from freezing in Japan to the extreme humidity of the tropics and the burning dryness of the Sahara. Sixty-five thousand feet of film were shot and Shackelford said the report from the lab was one hundred per cent.

He has some forty-odd camera lenses, some of them specially made and one that can be used for shooting directly into the sun.

While in Egypt he picked up some specimens of flint that were identified as being used by a prehistoric race 50,000 years ago. These are now on display in the Museum of Natural History in New York.

After visiting all of the so-called paradise spots: Fiji Islands, Bali, Hawaii and others, he says the place he likes best is San Fernando Valley, especially North Hollywood, where he has his home. (Chamber of Commerce, please note.) Shackelford says the average person has visions of the world's famous beauty spots as being ideal, but they have their bad points, too. For instance, while in Fiji it rained twenty-four hours a day for six weeks, without a let-up. Clothes and bedding became saturated from the moisture in the air and refused to dry during that period. "Glamour isles have about ninety per cent of their glamour in hooks," says Shackelford, and he ought to know.

On his South Sea cruise with George Dromgold, author of "Two Lugs on a Lugger," and illustrated by Shackelford, part of the time they had a cannibal crew of nine. When asked if he felt any fear he replied that he felt safer in all his contacts with savages, stormy seas and wild beasts than on the streets of Hollywood.

He has in mind other adventures, mentioned in his story below, but expects to remain around the film capital during the summer. He is one of the early members of Local 659 and reports that the work of its members is known all over the world. A card is a good introduction even in New Zealand and on the Sahara.—(Editorial Note.)







Getting a close-up of the Sphinx with a real Sheik for an assistant; in New Guinea, where 125 canoes and 1,200 natives were used for picture sequence with close-ups and long shots with Mitchell and Akeley cameras; on location in New Guinea at the edge of a coral reef, eight miles off shore. Fifty feet to the right the shoals drop off to 700 fathoms. On the bottom platform is Mel Ward, of Sydney, Australia, who had charge of the scientific side of the expedition. Mel is an expert swimmer and diver and here was standing by for an emergency.

MY EXPERIENCE in this motion picture game dates back more than thirty years, just how much more I'd hate to say. Anyhow, I can remember one of my first jobs was assistant cameraman with the old St. Louis Motion Picture Company, who were on location in southwestern Oklahoma making a picture called "The Renegade," or "Custer's Last Fight," one of those double title affairs. The technique was very crude







"Dawn over Bali" on a path through a rice paddy; some of the native kids used in village shots in New Guinea; New Guinea canoes. Part of the fleet of 125 used in a South Sea picture.

compared to our present day methods. Entire sequences were shot from a single camera setup and without a lens change. The camera was an unwieldy box affair about three feet square mounted on a four-legged platform with two-by-fours for legs. Levelling was accomplished by the use of wedge shaped sticks.

My first follow or pan shot was made by putting bed castors on the bottom of the camera. The castor wheels were guided in a circular track made of two willow saplings tacked to the three-foot-square tripod top. A two-by-four was nailed to the side of the camera for a pan handle. I believe I was one of the first cameramen to make a successful pan shot and the first to popularize the pan or trucking shots now so common in every present day picture. I know I was the first photographer to use an Akeley camera in either newsreel or photoplay production.

It was over twenty years ago that I made the startling follow shots of the auto races at the old Sheepshead Bay track on Long Island, the first Akeley shots to be used in a news reel and about the same time I used the Akeley on a picture called "Ann of the Green Gables," with Mary Miles Minter, and directed by William Desmond Taylor.

The whole Akeley idea was so radically different from the photographic methods used at that time that the skeptics sadly shook their hands and remarked: "It is just a passing novelty." But nevertheless, out of its introduction evolved the slip head tripod, without which a picture today just couldn't be made.

Speaking of cameras, among the many I have used are the Moy, Pathe, Schustig, Erencman, Universal, DeBrie, Sept, Russell, Eyemo, Gaumont, Neuman-Sinclair, Bell & Howell, Mitchell and a couple of my own make. The Bell & Howell and Mitchell are now the world standard and are used by all good cameramen everywhere. In my wanderings, I have found them in some really out of the way spots.

People often ask me if I don't get tired of these treks; if this roaming around doesn't get monotonous at times. No, not when one is afflicted with an insatiable curiosity to know what's just around the corner; what is on the other side of the mountain; what is over there in the forest; what is up, or down, that street or how far one can see from the next hill, and, too, the exciting things that happen every once in a while keep a person alert as to what may occur next. And of course there is that yen to record everything in a motion picture camera.

Would you be bored if caught in China's "No Man's Land," between two opposing armies, both popping at you with automatic rifles? That I escaped with a whole skin was due to their atrocious marksmanship.

One time after making camp on a small atoll in the Fiji Islands we found that the coral cliffs under which we camped were

alive with poisonous sea snakes that came pouring out by the hundreds at high tide. (Yes, we moved.)

Again, we were caught in a hundred mile hurricane that swept the Black Hole off Japan and forced our boat to heave to for twenty-four hours.

Hooking and landing a 450-pound swordfish off the north coast of New Zealand kept me too busy to be bored.

Being nearly swamped in a mountainous surf off the coast of Ceylon may have dampened my enthusiasm for a while. We were attempting to enter a river in a small boat over a treacherous sandbar and escaped only by the rarest chance after being badly battered about for hours and finally beating it out to sea again.

I was in Spain at the start of the last revolution and witnessed a mass funeral in Malaga of some of the first rebels knocked off. When our pearling lugger struck a coral reef in a blow off New Guinea, ripping off the copper bottom and nearly capsizing. I was aboard.

Two typhoons occured in the Yellow Sea while en route from Nagasaki, Japan, to Peking, China. One lasted three days and the little Jap boat I was on hove to the entire time.

On one of the four expeditions to the Gobi Desert we discovered the bones of the ninety million year old dinosaur, as well as those of the largest land mammal that ever lived.

Being charged by a deadly King Cobra while filming a picture of a Hindu snake charmer in Singapore made me wish for a few minutes that I knew something about the "charmer's" art.

Unknown to the Secret Service, I was concealed in the bushes of the White House grounds and got pictures of President Wilson during secret experiments during the early stages of ground to plane radio conversations.

I have participated in a midnight burial at sea in mid Pacific; dug up the bones of one of Genghis Khan's warriors in Mongolia and now have them in my garage; had myself and camera gently ejected from sacred grounds while trying to film a Mohammedan ceremony in India; tried a bath in the famous beach at Bali, but was discouraged by sharks; was caught in a sandstorm outside Aden, Arabia, that just about put the finishing touches to my camera equipment; felt the guilt of a small boy when I dropped a rock from the Leaning Tower of Pisa in Italy, to see how much it did lean, and nearly beaned a gendarme.

In Australia two of my assistants saved me from attack by a giant kangaroo and they held him off while I filmed a herd of two hundred of them.

In Marseilles, France, I got mixed up in a taxi strike and was kept busy dodging rocks and clubs, but by dodging up alleys

(Continued on Page 10)





A Balinese dancing beauty; one of the temple dancers being "made-up." Everything is changed from the skin out for this special ceremony.





On one of Shackelford's trips to Mongolia they had a caravan of 130 camels. This upper scene is at the base of the Flaming Cliffs of Shabrak Usu, where was discovered the remains of the Dune Dwellers and dinosaur many millions of years old. And by the way, this spot is only a thousand miles from a railroad. Below are the sand dunes on an 8,000-foot plateau in the Gobi Desert with Roy Chapman Andrews and his camel leader. Taken on one of Shackelford's four trips to Central Asia.

Across the Bar

By CHALMER D. SINKEY

A SURLY *wind* is whipping the mouth of the Columbia River into white-topped furrows. It is mid-January, and the sunshine has a vague, insincere aspect, as though it could hardly wait to duck behind an ominous bank of clouds rolling in from the northeast.

At Point Adams, the U. S. Coast Guard station, storm warnings beat muffled tattoos on the gusts of a rising gale; the blue-uniformed men go about their business with an air of expectancy.

For this is a "Second Tuesday," and every other Tuesday, come rain or shine, the Coast Guard boys load up their small, efficient life-boat, the *Triumph*, and journey forth eighteen miles at sea. There, opposite the rugged Oregon shoreline, they approach Tillamook Rock.

Nine times out of ten the *Triumph* rides into heaving swells that break and eddy about the towering rock, like a dizzying maelstrom. Never does the boat make actual contact with any part of this formidable outpost, for there is nothing but sheer, stone-grey walls and the sea rushing in, only to surge out again, as though intent upon keeping this spot apart from all of the rest of the world.

And yet, man has already won, over the sea, for a great light revolves, one hundred and sixty feet up, atop this menacing but natural foundation. Six men spend shifts of lonely days and nights on Tillamook Rock, keeping the light burning, guiding ships that pass; and every sea-faring man knows that were it not for these men, his craft might be added to others that have been dashed upon treacherous shoals in this graveyard of ships.

When the *Triumph* edges in on the swells, a swinging boom reaches out to grab supplies. Men who are landed or taken from the rock ride a breeches buoy, swung from this same boom. Occasionally the sea is too rough to make even this contact, but the Coast Guard boys always try!

Today when the *Triumph* goes out across the bar, Movietone News' camera equipment will be tucked in with the mail and supplies. We've been waiting for just such a glowering day to make the trip.

The commanding officer takes a last look at the barometer and signals us aboard. We button up our waterproof jackets, store the cameras solidly into a protected corner, and assume a nonchalant air as the small boat noses out of its mooring.

A powerful surge of motors drones above the wind. Commander McCormick takes a wide stance behind the wheel. "The best boat in the whole service!" he says





Upper picture, at Tillamook Rock the men and supplies are taken to and fro by breeches buoy. Lower, every second Tuesday the *Triumph* edges in on the swells, to send supplies up on the swinging boom.

proudly. "She can stand a rougher gale than any other craft in these parts.

"Remember that night when the *Iowa* went down—and every man on board was lost? Well, we were there, combing through the waves. Sometimes she was darn near standing on her beams, but the *Triumph* weathered the gale!"

I take appreciative mental note of our motorized life-boat. She is some sixty-five feet long, with an all-metal hull. There is two-way radio equipment, one life-raft lashed above the compact deck. The *Triumph* was obviously not designed for comfort, there are no upholstered corners for taking one's ease. Every inch of space counts.

As she throbs against the choppy harbor you get a strange feeling that she is a thing, alive: a gallant, fighting thing that challenges the sea.

The *Triumph* might be called a glorified surf-boat. She has safety-compartments. In case she were dashed against a rock, she would be only partially disabled. Then, there is another cheerful thought — although she might capsize, the *Triumph* would right herself.

"If we should get swamped," cautions Mac, "grab for a life-line and cling to the ship. We're practically indestructible."

I move over a step to get out of the icy spray that is breaking across the prow, and divide my attention between the piling waves that keep rushing at us, and the matter-of-fact sagas of the sea that Commander Mac is relating.

Behind us, the five-mile expanse of the river's mouth merges into a last, stormy view of Astoria, Oregon—ahead, a persistant rumbling sound tells us that the breakers are pounding against the jetties. This is my first trip across the Columbia River Bar.

Mac looks at us obliquely, as though he is secretly enjoying our private impressions.

Suddenly, we change our angle of progress and head for a wall of spray. This rises and falls, like Northern Lights. Still far away, it comes and goes, stretching high above the waves that surround us.

"Feeling a little sea-sick?" ventures our host. "Don't let it bother you: it's all a state of mind."

Which reminds me to get out a lemon that I brought along for just such an emergency. There's nothing like a good sour lemon to bolster up your state of mind in a rough sea. The *Triumph* rises and falls, each lurch seeming to push us closer to the spray.

Then it dawns upon me that this is not actually spray, but a solid wall of foam-topped, heaving water. It is the ocean, the storm-mad Pacific, rolling against its barriers, crushing the comparative calm of the river, which has come to the end of its way.

We are about to cross the bar!

The *Triumph* plunges into the first breaker; she strikes against it, and shivers. Then comes a lull, while she climbs to the top of a gigantic wave. With a sickening lurch, the boat seems to drop from under us. I pick myself off the deck and take a vicious bite out of the lemon. Mac is grinning.

During the next lull, we hastily don life-jackets.

"Just natural government precautions," says the commander. "Not that I am expecting any trouble."

Mac is really enjoying this. If Movietone wants pictures, he's the man who can provide the thrills.

A couple of Coast Guard men help to anchor the tripods, and we go about the business of trying to capture the giant seas on film. This goes on for several minutes, until finally the seas settle into a steady, rolling beat. Off the stern, the long jetties are disappearing in a driving rain.

We have crossed the bar.

My lemon is chewed to bits.

I wonder just where Tennyson got his first-hand inspiration for the poem, that goes:

"May there be no moaning of the bar,
When I put out to sea. . . ."

And so, once more, the Coast Guard has gone through, where great ships fear to tread.

Heeding the storm-signals, all navigation has halted outside the bar, until a safer time to pass. But the *Triumph* wallows heroically through the storm, for it is a "Second Tuesday," and eighteen miles at sea is Tillamook Rock.

There six men are waiting for mail and supplies. The Coast Guard boys will get through. Commander McCormick and the *Triumph* will not fail them.

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"Parachute Battalion"

● Paul Kelly and Richard Cromwell, two of Hollywood's most popular character actors, have been signed for major supporting roles in "Parachute Battalion," which Producer Howard Benedict sends before cameras at RKO Radio on March 25th. Leslie Goodwins will direct.

John Twist and Capt. John H. Fite, U. S. Air Corps, collaborated on the screen play of "Parachute Battalion," first motion picture to be based on the dare-devil lives led by Uncle Sam's new parachute troopers.

IT'S COMING!

By BURR McGREGOR

IT'S COMING vacation time! That snap-shooting season when memories are stored away. Have you thought about it? Maybe you haven't because you're busy and time passes—you wonder where. Maybe the eyes aren't squinty yet, but they will be and you'll be askin' yourself: "Where can I go for a day—or a week—to get rid of this 'squinteye'?"

What about the family? or, maybe you're a lone wolf and'll want to get away by yourself—where it don't cost much: somewhere that'll help you find out what's botherin' you—why you did it, or why you didn't; you just want to rest and not work at it. Take the snap-lense and a roll of film and beat it.

There is one place in this blessed country few people go to, a charming restful place at any time of the year—if you just want rest! Did I hear you ask: "Where is it?" "Frazier Mountain Park!" Ever hear of it? Not many people have.

Well. Frazier Mountain Park is four miles west of Highway 99, on Route 368. forty-four miles south of Bakersfield and seventy miles north from Los Angeles in the midst of the Tehachapi Mountains, midway between Lebeck and Gorman.

Visited by few motorists because only a few are aware of the location known only by word of praise from those who "week end" there to enjoy the wine purity of the air and cut down on the Scotch and soda desire and drink the clear water of crystal flowing springs and spread out in the restful shade of spreading oaks and pine forest. Not a bad place to sneak away to for a day, a week, or longer.

It is exceptional that in this great state of crowded tourist travel, a place combining the natural health qualities of rare pure air and water, together with alluring natural beauty and convenience for outdoor sports through all the seasons, could be tucked away in the mountains so close to home and so little known.

Midway between Lebeck and Gorman is the junction of Route 368, well marked and curving off to the west of Highway 99.

Ascending to an altitude ranging variously from 4500 to 5100 feet, the wanderer reaches the entrance of the "Park."

The settlement of Frazier Mountain Park is unique in its apparent invisible government, and the fact that its citizens are peaceful and law abiding, without any visible restraint of law enforcement. Disorderly conduct is not a disturbing element of this delightfully quiet community.

No officer of the law is there to interfere with the "goings and comings" of visitors. The locking of doors, the closing of blinds and the drawing of shades has never become a habit.

Until several years past, this "Honor" community governed its affairs by peaceful adjustment, until one day a newcomer arrived and became a permanent resident as well as a member of its Elders, and gave voice to his opinions.

He brought with him from his "outside" world his possessions, material and mental, displaying stubbornly a cultivated sense of suspicion.

The simple trusting simplicity of his new environment caused him much uneasiness, which increased till he mistrusted his neighbors and became the community's first disturbing element.

His long, insistent shout demanded that the safety of person, morals and property required the active presence of a law representative in their midst to insure security of mind.

A delegation was appointed to make the proper application at the Sheriff's office, forty-four miles away at the County seat, resulting in the appointment of a deputy to enforce "Law and Order."

Behind the authority vested in a new shining badge the deputy moved in and proceeded to perform his spying and peeking duties. And then trouble commenced to stalk grimly through the winding lanes of the settlement, crowding out the laughter and pleasures of good neighbor gatherings, unrest in the little cafes, and much whispering in secluded places.

The tranquility of this Utopian community was severely disturbed, culminating one evening when one of its young men, participating in a friendly gathering, departed to wend his way to his little cabin, happily singing his way through the light and shadows of a balmy full moon, perhaps not too steadily, and too, the singing was a wee bit in discord, but he was happy; the dreadful burden of the new law had shifted, but it climbed back and perched unpleasantly, for the law sprang out of the shadows, and he was placed under arrest for disturbing the peace, whisked away to the Sheriff's office, jailed and sentenced to six months.

The seething pot of brewing trouble boiled over—it couldn't take any more heat! The Elders of the community stormed into the Sheriff's office demanding the scalp of the ambitious deputy—the pelt was granted, and the objectional citizen moved out.

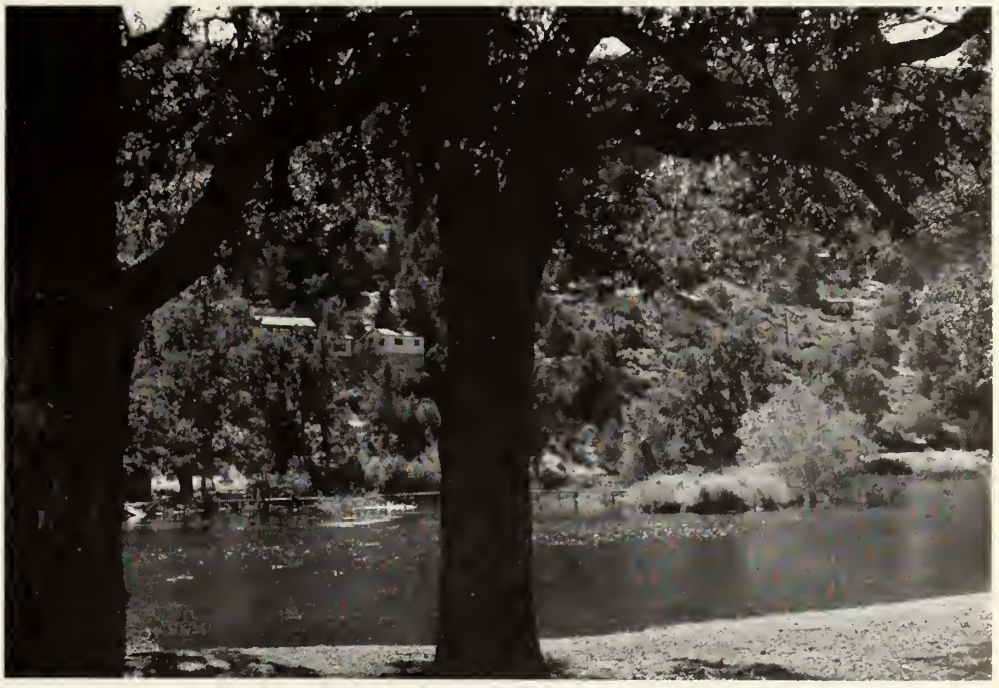
Through this experience a judgment of peace again enveloped the community with sweet calm as the citizens proclaimed proudly to the "outside" world the cleansing of their honor.

During the open hunting season the regions hereabout become a joyful stamping ground for ambitious hunters. Being within the confines of Los Padres National Forest, all game is rigidly protected through the closed seasons and definite restrictions imposed on the limit of game that can be taken.

Deer are plentiful. So are quail—both the mountain and valley specie.

Wild pigeons descend into the valley in clouds of great numbers during the season when the pine-nuts are falling, and leave as quickly as they arrived—all together.

The immediate vicinity of the "Park" is closed to all hunting throughout the year. resulting, in the hunting season, of many deer rushing into the area, instinctively, for protection.



Flowing springs under spreading oaks.

During the early '70's a wandering prospector known as "Old Frazier" uncovered a vein of gold at the base of the high mountain adjacent to the "Park."

According to the legends of the oldest settlers, over a million dollars was taken from the workings of the discovery; the mountain was named after the old prospector and the settlement was put on the maps as "Frazier Mountain Park."

One of the winter sport projects now being developed that will attract enthusiasts from all over the country, and foreign places—what's left of them—is a ski-slide starting at the summit of Mt. Pinos, close by, that will follow the gentle slopes into the valley, a trifle over five miles. A State Highway has been surveyed to the summit, and then on down into the further valleys to connect with Coast Highways.

The "Park" has a sprinkling of fine modern cabins nestling among the old wide spreading oaks, and tall fragrant pines that blend in charmingly with the landscape. There is an abundance of clear crystal spring water, electricity and wood fuel for open fireplaces.

For those enthusiasts who roam with a "Coach Trailer" there are spots of restful beauty and privacy. A vacation place that will make the old young again and keep the young in the vigor of their youth.

world through the camera

(Continued from Page 5)

and back streets, grabbed my boat just as it was pulling off.

In one of our expeditions we discovered the remains of a people called the Dune Dwellers of Shabrak Usu, who had lived in the Gobi Desert twenty thousand years ago.

In Indo China I contracted a malady that made me deaf for weeks (but I can hear better than ever now).

Some of my most terrifying hours were spent aboard our pearling lugger one black night during a hurricane, an eight-knot cross tide and our engine refusing to do more than five knots, and we right in the middle of the most dangerous waters of the Great Barrier Reef off Thursday Island, Australia. We spent the night on beam ends with tons of our gear and food crashing about and two drums of wood alcohol flooding the decks, which meant no lights of any kind, and every moment we feared that a spark from the lousy engine might set us off into Kingdom Come. With anchors out we could do nothing but hang on by all fours like monkeys until morning came.

In the shadow of the Pyramids, in Egypt, I made the discovery of the remains of a prehistoric race that had lived there fifty thousand years before the Pyramids were built. For this I received an appreciative acknowledgment from the Museum of Natural History in New York. They said the discovery formed an important link in tracing distribution of "homo sapiens" on this good old planet of ours.

Happenings like these do break the monotony and any one of these experiences would make a good story in itself. One of these days, through the pages of INTERNATIONAL PHOTOGRAPHER, I will tell you more of these "carryings on." It will not be long before you will see a collection of these tales in book form similar to one now published, called "Two Lugs on a Lugger," by George Dromgold, which narnates a year's picture expedition of Dromgold and myself to the South Seas.

My travels for picture material have carried me over 600,000 miles to many far corners of the earth, and I hope to double that mileage before I wrap up the old box for good. There are so many things yet to be photographed, unbelievable things that can only be proven through the medium of sound and color motion pictures.

A few of the things I have listed in my little black book yet to be captured pictorially are: A practically unknown islet inhabited only by giant ants. There are over 1,800 ant habitations on the island, averaging sixteen feet in height and sixteen feet across at the base, and so thickly built as to resemble a modern city of towering skyscrapers.

Then there is a country where the hairless ape roams about at will, walking upright like humans and building his home in the tree tops. And speaking of apes, there is another place where monkeys swim under water and catch fish.

And listed, too, in the little book is a cone shaped island rising nearly straight up out of the sea, where over 3,000 people have literally woven their houses into the tangled vegetation covering the cliff-like sides of the island. The natives lash their canoes to the precipitous slopes with vines, as there are no beaches and there is no walking around, as they can only climb about while ashore: the "island of human ants," I call it.

Have you ever seen the place where the poultry peddler walks around with an enormous crate filled with four or five dozen live chickens picked clean of their feathers, the crate balanced precariously on his head? Handy for the housewife, no doubt.

Then there is an island about two miles in diameter. From seaward it appears to be a ring of barren cliffs sixty to eighty feet high, but at low tide and after careful search you may find a winding entrance where you can go through in a small boat, and once inside discover a beautiful lagoon surrounded by smooth sand beaches and luxuriant tropical vegetation and inhabited by some two hundred natives. A friend of mine who was there a few years ago said the natives claimed he was the first white man they had seen in twenty years.

I don't know why so many of my fellow camera explorers have passed up such interesting material, but I do know that as soon as the present unpleasantness involving the different countries is over, I'll be on my way again, with a sound and color camera.



Shackelford gets some close-ups of Balinese dancing girls.

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STUDIOS' STILL PHOTOGRAPHY SHOW

As announced in last month's issue of International Photographer, the First Annual Exhibition of the Hollywood Studios' Still Photography Show is being held April 14 through April 27.

Sponsored by the Academy of Motion Picture Arts and Sciences, the committee in charge of the exhibit are: Perry Lieber, Chairman; John Joseph, Howard Strickling, George Brown, Louis Smith, Harry Brand, Robert Taplinger, Frank Selzer, Jock Lawrence, John LeRoy Johnson, Donald Gledhill.

Following is an analysis by studios of total entries submitted:

COLUMBIA
- Milton Gold ... 3
- Irving Lippman ... 11
- M. B. Paul ... 2
- A. L. (Whitey) Schafer ... 6

— 22

METRO-GOLDWYN-MAYER
- Virgil Apger ... 19
- Frank Bjerring ... 4
- Milton Brown ... 6
- Clarence Bull ... 6
- Eric Carpenter ... 12
- Ed Cronenweth ... 9
- William Grimes ... 12
- Bert Lynch ... 4
- James Manatt ... 7
- Merritt Sibbald ... 4
- Frank Tanner ... 11
- Lazlo Willinger ... 16

— 110

PARAMOUNT
- C. Kenneth Lobben ... 8
- Hal McAlpin ... 7
- G. E. Richardson ... 4
- Eugene Robert Richee ... 14

— 33

RKO RADIO
- Ernest A. Bachrach ... 15
- Fred Hendrickson ... 7
- Alexander P. Kahle ... 24
- Gaston Longet ... 12
- John Miehle ... 22
- Oliver Sigurdson ... 6

— 86

20TH CENTURY-FOX
- Gene Kornman ... 17
- Clifton Maupin ... 13
- J. C. Milligan ... 11
- Ray Nolan ... 4
- Frank Powolny ... 12
- Emmett Schoenbaum ... 19
- Anthony Ugrin ... 11
- Jack Woods ... 10

— 97

UNIVERSAL
- Sherman Clark ... 7
- Ed Estabrook ... 14
- Roman Freulich ... 19
- Eddie Jones ... 7
- Ray Jones ... 14
- William Walling ... 4

— 65

WARNERS
- Schuyler Crail ... 15
- Mack Elliott ... 6
- Elmer Fryer ... 13
- Mac Julian ... 19
- Madison Stoner Lacy ... 10
- Bert Longworth ... 23
- Mickey Marigold ... 13
- Fred R. Morgan ... 11
- Bert Six ... 14
- Charles Scott ... 12
- Scotty Welbourne ... 12

— 136

HAL ROACH
- Thomas Evans ... 7
- Stax Graves ... 14
- Jerry Hester ... 7

— 28

OTHERS
- Robert Coburn
  - Goldwyn ... 4
  - Korda ... 9
  - Lesser ... 5
  - RKO Radio ... 2

— 20

- Warner Crosby
  - Monogram ... 13
  - Cathedral ... 2

— 15

- Ira Hoke Hughes ... 8
- William Wallace Chaplin ... 11
- Ned Scott ... 4
- John Ellis ... 1

—

- Wanger ... 5

Total Entries Submited ... 636

Number of Photographers Submitting Entries 59

The committee has announced that amateur camera fans are invited and may bring along their cameras if they wish.

Mood Created by Filters

By JACK GREENHALGH

Jack Greenhalgh, who has photographed a large number of pictures during the time he has been a first cameraman, has had varied experience in exterior photographic work. Greenhalgh wishes to record for the benefit of his colleagues what he believes to be the rewards of experience which is the only school through which men can become cameramen. He maintains that there is no prepared formula to be laid down by which others might copy past performances. He recommends that one study the work done by another and then apply himself through a series of experiments by which he finally can attain the same effect. He will be more than glad to have others comment upon this article. We feel that perhaps others may elucidate or bring other points to bear and so create an open forum through which all may benefit.—(Editorial Note.)

Filters can play as great a part in a screenplay as sets, scenery, or even actors. Bearing in mind that the primary purpose of a motion picture is to tell a story and the audience to concentrate mainly on the story, the cameraman should use everything at his command to help further this concentration. Any artifice that he might use to distract the audience from the plot for the sake of obtaining a beautiful picture so he will receive compliments from others is in my estimation wrong. He should keep strictly within the mood of that particular part of the picture he is shooting. On interiors naturally he does this with his lighting, but when shooting exteriors where to a certain extent the lighting is beyond his control he should do it with filters.

Of course, every cameraman knows the degree of correction to be obtained with certain filters all the way down the line from an Aero 1 to a No. 72, etc. He knows the amount of exposure he should add for each filter. He knows what each filter will do to the scene he is photographing; how it will affect the sky, the clouds, the haze, the distant hills and mountains. He knows what each filter will do to the foreground of his scene and any highlight or shadow he might be using for composition. He knows how each filter will affect the snow capped mountains or the vast ocean. He knows what it will do to the trees and rocks and he knows what it will do to the faces and skin texture of the actors in the scene he is shooting.

This is all well and proper and as it should be, because any cameraman worthy of his position should know these things. But that is not enough. This knowledge should be applied to furthering the construction of the story by playing up the particular mood in the sequence that is being photographed.

For instance, a sequence that has comedy for its basic theme must be light and brilliant; consequently a lighter filter such as Aero 1 or 2 should be used so the sky will not appear too dark nor the shadows too deep. Add to this brilliant lighting such as a crisp back light and a little warmer light in the face and I think the general tone will lend itself more to the feeling of lightness and snappiness which comedy requires.

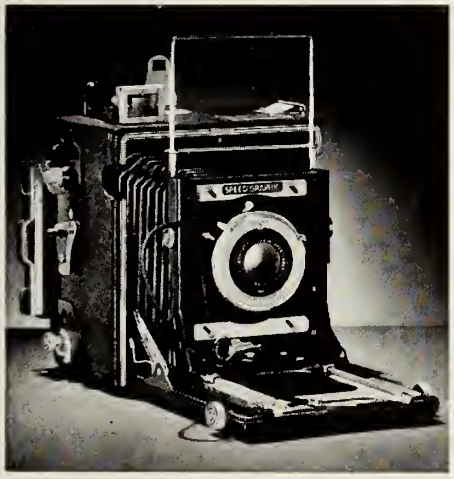
On outdoor pictures, such as Westerns, or where the scenery is supposed to lend a feeling of vastness to the picture, then a slight degree of over-correction should be used, particularly when there are a few clouds in the sky.

Where the theme is heavy and dramatic the sky should be very deep and the shadows dense, filters of a deep red are advisable, such as No. 25 or 29. If possible use heavy masses in composing the picture and avoid sparkling highlights. Thus the effect of the dramatic situation will be achieved.

Of course, each particular scene has its own problems and solutions, but I feel that the mood of the story should be uppermost in the cameraman's mind when he records his scene.

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*Here are two valuable reference books: Graphic Graflex Photography by Willard D. Morgan, Henry M. Lester and 20 other experts; and Photographic Enlarging by Franklin I. Jordan, F.R.P.S. — **$4.00** and **$2.50** respectively, at your Dealer's.*

THE picture above—"Gelaendesprung" by Ray Atkeson, ably illustrates the unusual capabilities of Speed Graphic cameras. Using his 4 x 5 Speed Graphic at 1/825 second and f/8, Mr. Atkeson obtained not only "stopped action" but clarity of detail in both foreground and distance . . . plus a negative size that permitted great enlargement without loss of this detail. No wonder his picture was a prize-winner in the Action Class of the Graflex Golden Anniversary Picture Contest!

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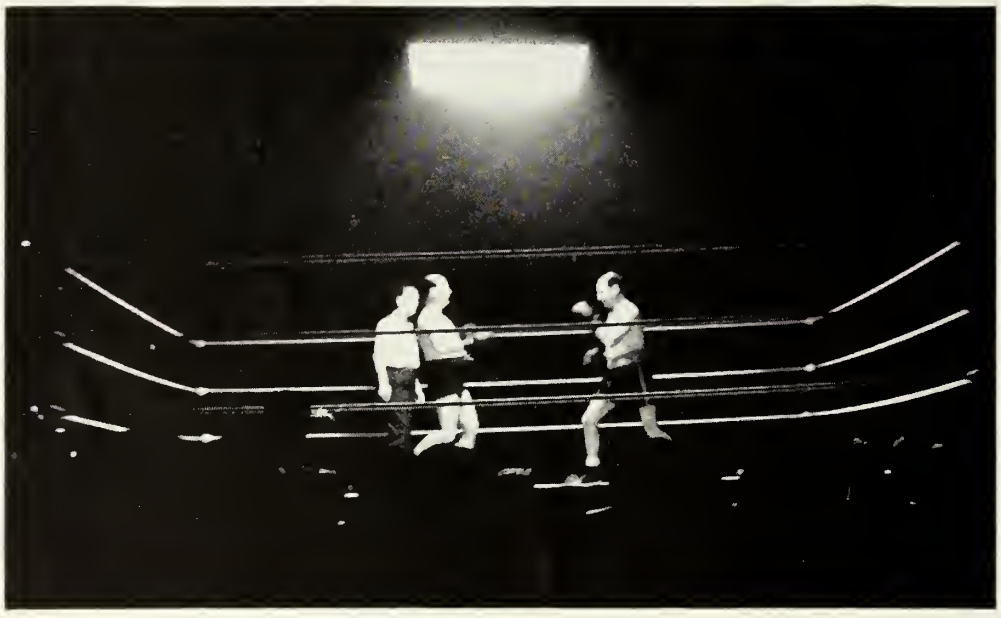
On the Island of Gona Bara Bara. Shackelford left, Dromgold right, under what is called the rain tree. The leaves fold up at night, catching any moisture that falls, and upon slowly opening the next morning create a miniature shower lasting an hour or more. Here they went ashore for some of their most beautiful South Sea scenes, later to learn something that made their "flesh crawl." The place was literally alive with giant pythons. Luckily their habits are nocturnal.

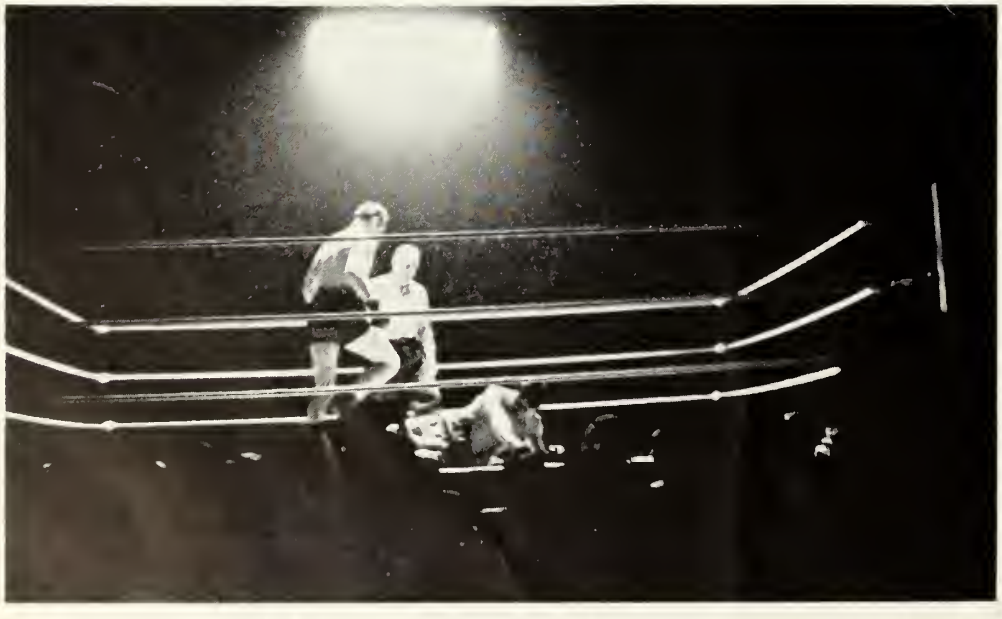


Headquarters in Fiji Islands, where Shackelford and his party were marooned for six weeks during a deluge that fell steadily, twenty-four hours a day, the entire time. In the doorway are Shackelford (left), Dromgold and Rota Pope, the Island Chief. Here they got their fill of tropical fruits and fish (sometimes as many as five kinds at dinner). They sampled everything that grew in the sea, from seaweed to sharks and slugs; crabs, crayfish, prawns, lobster and parrot fish of every hue.

esselle parichy, miami host







Pat Comiskey "off-stage"; Lew Tendler (left) and Benny Leonard dance a nice four rounds at the British American Ambulance Corps benefit fight at Miami; Pat Comiskey (left) with Domingo Valin on the canvas, first round—2 minutes and 16 seconds. *(Leica photos by Parichy.)*

Dear Herb:

As I wrote you before, "I have a ship that never goes to sea." What I'm trying to say is: Pat Comiskey, the coming giant heavyweight, from New Jersey, has been staying in the Ships quarters for the past month preparatory to his fistic bout with your California boy, Domingo Valin.

The fight was held here in Miami, March 9th, you know, for the benefit of the British American Ambulance Corps.

It was a very good show all around, Herb. While this is not a very good fight town they packed them in to a gross of 14 G's. I got me a ringside, and it was worth it. Jack Kearns put on the show at the Biscayne Fronton.

I've been housing Pat's stable mates here, too. His manager, trainer, sparring partners, and the lesser lights of the W. P. Daly Stable. There is another clever boy in the stable with Pat. He is Irish Eddie Pierce, from Cape Town, South Africa. He won his ten rounds over Ben Brown, from Atlanta.

This show had Maxie Rosenbloom and Levinsky. They danced a good four rounds. Then Benny Leonard took on Lew Tendler for another four. The Great Jack Dempsey, the ol' Manassa Mauler, refereed the Buddy Knox-Melio Bettina ten rounder. It never got that far; Bettina gave Knox a powder in the fifth round.

But the thrill of the night was when Pat Comiskey knocked out Domingo in the first round. It went only two minutes and 16 seconds. Funny how the thing happened—Pat's left only traveled about six inches to Domingo's jaw. In the ring, Pat never telegraphs a punch. He just truns 'em. He's left-hand crazy, that boy. Domingo "should'a stood in bed," or should'a stayed in California, as far as the fight was concerned.

After the fight I went into Domingo's dressing room for his scratch. I got the whole program full of scratches. I'm a sucker for autographs . . . you know. I'm saving them for Sargasso Sam. Well, Domingo told me he never knew what hit him when Pat truned that left. Domingo is a nice guy. And he likes Miami.

Sunday afternoon before the fight I went into the ship's quarters to talk to Pat. He was in the lower bunk, reading the funny papers.

"Hello, Hercules," I said. "Listen . . . Pat. This morning out on the golf course a friend of mine gave me an even money bet . . . ten bucks . . . that the California boy will take you tonight. How about it?"

Pat rolled over in his bunk and said: "Who's the sucker? Why . . . they're only giving 8 to 5 that I'll knock him out!"

"Oh . . . this is just a spite bet . . . Pat. This guy I'm talking about will bet against me on anything. He's par-happy. I beat



KODATRON SPEEDLAMP

Flash Freezes Motion

THE girl in the illustration above was caught in one phase of a whirl of fast dance routine. No human motion is too fast for this lamp. Models need not be posed, but may be caught in the rehearsal of a bit of action and "frozen" with wire-sharp definition. The light provided by the Kodatron Speedlamp flash is so powerful that exposures must be made with small diaphragm openings, insuring depth of field.

EFFICIENCY AND ECONOMY OF OPERATION

The Kodatron Speedlamp uses very little current and its gas-filled flash tube is good for over 5,000 fully efficient flashes before replacement is necessary. No special wiring or fusing is required for this lamp. Shutter synchronization is simple. A 50-watt lamp within the flash tube gives a preview of the light balance on the subject.

Kodatron Speedlamp complete, including power unit, one Kodatron Flash Tube, 18-inch reflector, telescoping standard, and synchronizer cord	$400
Kodatron Flash Tube (replacement)	30

Descriptive circular will be gladly supplied on request

EASTMAN KODAK COMPANY, Rochester, N. Y.



Esselle Parichy and Paul Ivano, taken on Paul's one-day stop at Miami en route to Argentina. The other picture is aboard Esselle's "ship that never goes to sea."

him at golf, so he tries some other way to put the hooks in me."

"Call the sucker up and tell him I'm going to take Valin in the first round for you. Want my gloves . . . after the fight?"

"Oh . . . geeee, yes!"

"Okay . . . pal."

Well, Herb . . . that's how it was. Pat gave me the gloves he wore in the fight. They look new, too. Pat autographed the left one. I told you he is left-hand crazy.

Well, yesterday I gave the gloves to Sargasso Sam. He's going to hang them up over Pat's picture in his den.

Ivano Visits Miami

WHILE on the 9th hole of a golf game (very good game, too, a 41 up to that point) a telephone message was relayed to me that Paul Ivano, the "Volga Boatman," and his very charming wife had just docked at Port Everglades aboard the *S.S. Uruguay*.

It seems that Paul is South America bound, Buenos Aires his destination. (Of course you know all about this, Herb) for a year or maybe three on a picture deal.

As this cruise ship only docked for the day, Paul and his wife did a whirlwind tour of our Magic City and its many attractions.

This is not Paul's first visit. He has been here before with Lucian Ballard a number of years ago. Paul was amazed at the metamorphosis of the Greater Miami area.

Of course, like all good photographers, we went to work with our Leicas. He got me to take to Buenos Aires in his camera and I am enclosing a couple of takes that came out of my magic box. Well, anyway, here are our pictures together.

As I bid the Ivanos "Bon voyage" I felt a boaty feeling, and wished I were going on this attractive cruise, which touches at such intriguing ports as Nassau, Barbados, Rio de Janeiro . . . and all points south.

But the only cabin I can occupy at this moment is my Ship's Quarters, Guest House, which I call the *S.S. Consuelo*, "the ship that never goes to sea."

Oh, how I envy Paul Ivano, with the wind in his hair, sailing the tropic waters under the Southern Cross. And what a boat he is on . . . and what sights he will record in his camera.

No doubt Paul will see the Duchess, in Nassau . . . Barbados, with its pirate lure . . . Rio, now there is a place . . . you name it, and like Aladdin's Lamp, it will produce your fondest dreams.

It's nice to see old friends again . . . and it's hard to say goodbye. I wish Paul the best of luck in his new venture.

ESSELLE PARICHY.

THEY SAY---

By RELLA

● Bill Clothier is married to a famous Cuban dancer.

● Allen Thompson, enroute to Point Barrow, Alaska, on an expeditionary trip with Mala, formerly known as Ray Wise.

● Bert Willis will surprise the entire photographic profession and perhaps the cinama industry with an invention which should be released next month.

● At one time Jerry Ash performed magic on the stage. Look out, Jerry, or the boys will be coming to you for the same sort of stuff in getting them work.

● Ernest Bachrach is a painter and can hold his own with many of the profession-als of that aesthetic art.

● Arthur De Titta, who was in charge of the Fox Movietone Office in Paris and evacuated that city the day before its fall, tells us this interesting story: Being a member of the New York Local 644, he would from time to time mail in his check. After the outbreak of war and the mails became censored, each time stamps were placed in his card and same returned from the New York union offices, the governmental officials in France would carefully examine the card and stamps, believing that he was some kind of a foreign spy and that the stamps were carrying code messages! De Titta is now stationed in Hollywood, California, in charge of the Fox Movietone office.

● Charles Boyle heads the first of the group leaving for Ocala, Florida, where "The Yearling,' an M.G.M. location, will go into production in color for about three months. William Strafford, business representative of Local 666, is making preparations in Florida to see that all works out well and that the members of Local 666 receive some employment from this location.

● For some unknown reason, Florida seems to be the location spot for producing companies of Hollywood, Paramount, R.K.O. and M.G.M., as well as Fox, having been there within the last three months.

● Elmer Dyer and Charles Marshall signed by Warner Bros. to be the aerial photographers on "Dive Bomber."

● The members of Local 659 express their deepest sympathy to the family of Fred Mayer in his departure to the Great Beyond.

● Ray Fernstrom has just completed photographing in color skiing on top of mountains in the Canadian Rockies, produced by Leon C. Shelly, who produced the travel novelty film, "Beautiful British Columbia."

● The RKO troupe has checked in from Fort Bening, Georgia. Harry Perry also at RKO in New Orleans winging his way west to the home studio.

● Off to Florida again is Dewey Wrigley, this time having assistant Ed Soderberg.

● Danny Fapp, second cameraman at Paramount for many years, elevated to first cameraman; while Teddy Tetzlaff, first cameraman, was elevated to position of director.

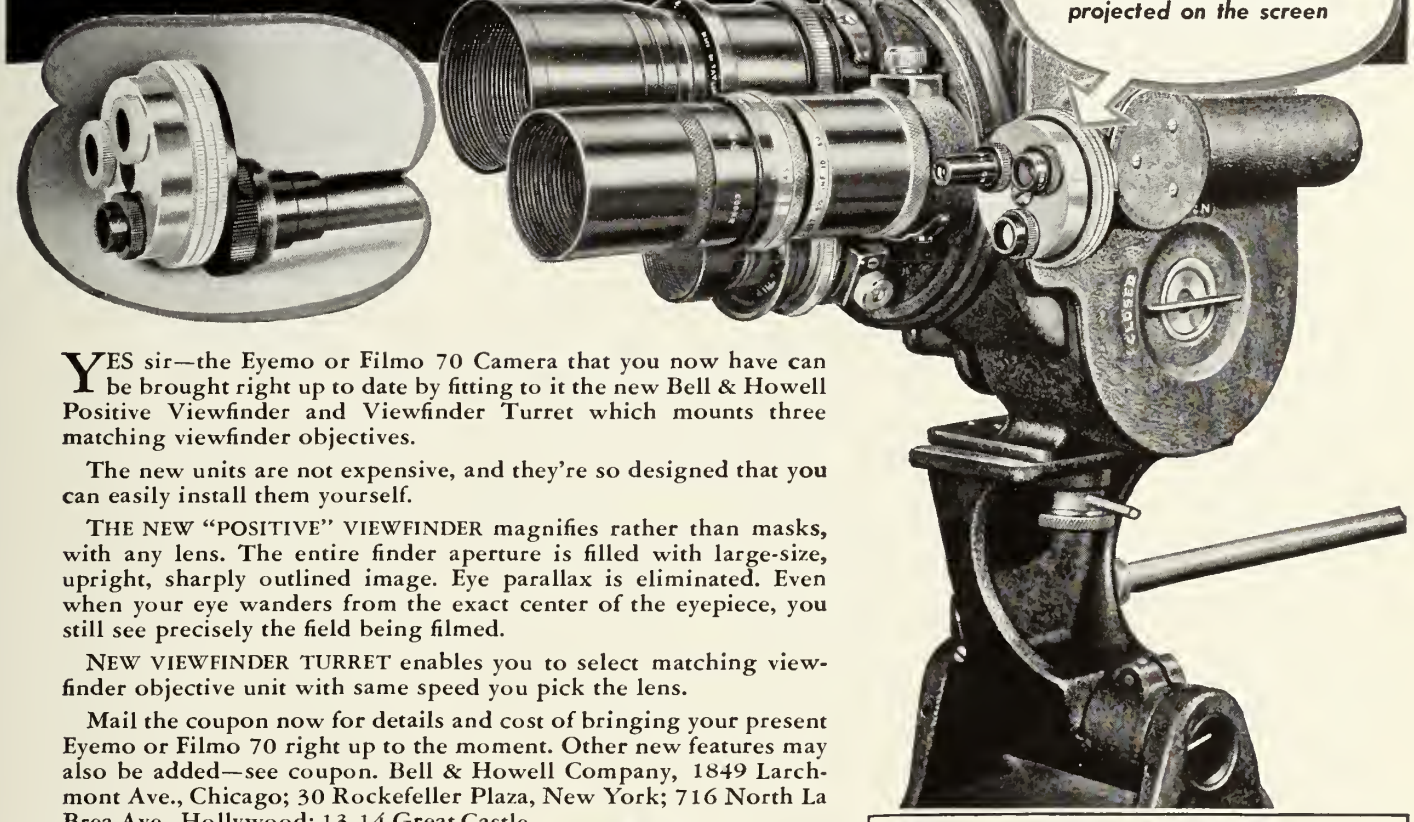
● Our sincere sympathy to John McCormick and George Fox on the loss of their beloved fathers.

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Some Additional Notes on Kodachrome

In our article last month on Kodachrome, appearing in these pages, we purposely avoided the discussion of filters for use with this medium, deciding to treat this in an article by itself. Filters, used with Kodachrome, have the ability of not only adapting the exterior-balanced emulsion for interior work, and vice versa, but also that of taking a variety of different color-temperatures of light and giving a final result of color balance and tone that is as consistent throughout scene after scene as though they had been photographed under one correct lighting condition.

The two devices necessary are a color temperature meter, and a set of color compensating filters that Eastman puts out. The meter, if carefully used and corrected for the color sensitivity of the eyes of each individual, will accurately measure the temperature in degrees Kelvin. This business of color temperature might sound like a complicated affair to many amateurs; all that it is, is a "yardstick" placed against a color chart to give a definite number to that particular color so that we may duplicate the exact color of a given number. The need for this sort of system for purposes of correction will become apparent when we examine the delicate color sensitivity of the modern Kodachrome emulsion. Couple this with another fact: Most of us have noticed how with ordinary electric light bulbs one of them may seem particularly yellow, or another rather white in light. This has nothing to do with the *amount* of light, because an automobile headlight having only a candlepower of 32 or so may be considerably whiter than a house light of several hundred candlepower. This difference in color—or, specifically, color *temperature* — will photograph correspondingly.

The emulsion balanced for artificial illumination (Type B) is balanced for photofloods. Photofloods have a measurable color temperature of around 3400 degrees Kelvin, depending on the voltage of the line, since the color temperature of a photoflood will vary roughly about five degrees per volt. (The term "Kelvin" is used in the same sense as Fahrenheit, or Centigrade, Kelvin being the scale which has for its zero point "absolute zero," that point at which all molecular activity ceases.) The color temperature of a standard mazda will run from 2800 degrees to 3250 degrees, latter being intended for color photography. The color temperature of the light encountered on exteriors will be in the neighborhood of 5,000 degrees K. And since the Type B is balanced for 3,400, as noted above, it is evident that the wide variety of illumination that is apt to be encountered in the course of work with this medium will result in serious inconsistencies in the finished film unless some means are used to equalize these conditions.

The color compensating filters mentioned above are intended to do this. Where the light is too blue they will hold back enough of the blue so that the temperature of the light reaching the film is 3,400 degrees. Where it is too yellow, the filter will hold back enough of the yellow so that the temperature reaching the film is the same. It would be more nearly correct to say that the response of the colors in the scene would be the same as though light of 3400 degrees K. were falling upon it. Regardless of what the temperature of the encountered light, within the scope of these filters, properly used, they will hold back that color in just the right amount to give the effect of raising the temperature, or dropping it, to the standard figure which will give perfect color reproduction.

The expedient by which this is accomplished is simplicity itself, once the amateur has had sufficient practice with the color temperature meter to assure himself that he is getting the correct readings. In this meter, there are two semi-circles which, when combined, form a complete circle. One semi-circle has a fixed color; the other one is variable, by means of a knob on the outside of the instrument, which is attached to a pointer on a scale. Looking into the eyepiece, with the meter directed at the *source* of the light, this knob is rotated until the semi-circle with the variable tone matches the semi-circle with the fixed tone. At this point a reading is taken, directly in degrees Kelvin—the color temperature of the light measured. When the readings obtained show 3,400 degrees the scene can be photographed without any compensation. If the readings obtained are below this figure, then the compensation filter will be one of the blue shades. Picking out the lightest, this filter is placed directly in front of the aperture admitting the source light, and the knob rotated in the usual fashion until a match is obtained in the semi-circles. Again the reading is taken. It will be found that this reading will have a higher value. If, however, it does not reach the 3,400 mark, the next deeper shade is measured, and this process continued until the filter chosen brings the reading to exactly the equivalent of photoflood illumination. The filter found to give this correct reading is the filter used on the camera. Should the original readings without the filters go above 3,400 degrees, then one of the yellow filters will be necessary, and the procedure will be the same, except that the readings will become less and less until the point of photoflood equivalent is reached.

In using this equipment a few points should be remembered. Every person has a somewhat different eye-response to color, so the meter *must* be corrected against a standard candle for each individual. Also, the match, in order to have any practical value, must be extremely accurate, and the eye is prone to tell us that they do match, when actually they are slightly off. For this reason, as in the case with all scientific instruments where the possibility of human error is present, it is necessary to take several—sometimes as many as ten—readings, and these readings averaged up. The problem of physical fatigue, and eye fatigue, is a considerable one, and must be reckoned with.

Once these processes are mastered and the readings held to the optimum point, a consistency in fidelity of color reproduction will result. The problem then resolves itself into one of keeping the scene illuminated by sources whose individual color temperatures are the same. Generally this is fairly easy if the bulbs are of the same type, are of similar age, and are operating from the same line source. If a change of voltage has occurred it will be the same for all the lamps, and an overall correction at the camera with the filters will take care of the situation. Only unwanted daylight will then give a distorted rendition.

Agfa Improved Indiatone Paper

● The warm-toned Indiatone paper which has been widely employed for both projection and contact printing is now being supplied by Agfa Ansco in a new, improved type. In addition to being richer in tone and easier to handle than that previously supplied, the new Indiatone displays excellent stability and latitude characteristics and is marked by an improved gradation that exhibits softer highlight detail without sacrifice of shadow brilliance.

New Wabash Bulletin

● Camera fans who want the latest data on flash, flood and color photography may secure a copy of the new Wabash Exposure Bulletin, Form 732P, just off the press. This bulletin lists all popular films with complete exposure tables for their use in flash and flood photography with between-the-lens shutters, as well as focal plane shutters from the minicamera size to the largest 4x5-inch Speed Graphic size. A special page is devoted to color photography with the latest exposure data tables available for both indoor and outdoor use with flash and flood. Readers of International Photographer may secure a copy from Wabash Photolamp Corp., Brooklyn, N. Y.

Orr and Nan Wynn in New Short

● The first of Warner Bros.' 1941-42 shorts schedule to go into production will be "Those Good Old Days," co-featuring William T. Orr and Nan Wynn. Jean Negulesco will direct the two-reeler.

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PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,230,570—Reflex Scanner. *Edward P. Kennedy*, assignor to Motiograph Inc., Chicago, Ill. Appln. March 19, 1938. 8 claims.

A projector having a film compliance drum which directly engages the film between the supply and take up sprocket, and which is driven at synchronous speed with the sprockets.

No. 2,230,590 — Color Photographic Process. *John Eggert* and *Gerd Heymer*, Germany, assignors to General Aniline & Film Corp. Appln. Dec. 30, 1938. In Germany Jan. 22, 1938. 1 claim.

A method of making colored photographic prints by exposing a special multi-emulsion negative, and then copying it, layer by layer, on a special multi-emulsion printing material.

No. 2,230,938 — Method of Obtaining Color Photographs. *Anne Henri Jacques de Lassus Saint Genies*, Versailles, France. Appln. Dec. 29, 1936. In France Jan. 4, 1936. 2 claims.

A method of obtaining colored photographs by exposing a lenticular negative and then chemically treating the film so that toning corresponding to that desired in the particular monochrome element is obtained.

No. 2,230,977—Single Solution Photographic Developing and Fixing Bath. *Garnet Philip Ham*, assignor to American Cyanamid Co., New York. Appln. April 4, 1940. 9 claims.

A single solution silver halide developing and fixing bath comprising a silver halide developing mixture, an amino benzoate and a silver halide fixing agent.

No. 2,231,378 — Motion Printing Machine. *Herbert Becker*, *Werner Bender* and *Walter Stroble*, Germany, assignors to Kislyn Corp., New York. Appln. Aug. 6, 1938. In Germany Aug. 11, 1937. 3 claims.

A printer in which an image of the original film is focussed on the copy film by a concave mirror.

No. 2,231,383 — Film Splicer and Rewinder. *Jacob M. Goldberg*, Denver, Colo. Appln. Sept. 12, 1938. 13 claims.

A film splicer having a clamp for holding the film and a motor-driven rotary cleaner slidable across the film to clean its upper surface.

No. 2,231,384 — Film Rewinding Machine. *Jacob M. Goldberg*, Denver, Colo. Appln. Feb. 27, 1940. 13 claims.

A film rewinder having a motor-driven friction disc which is contacted by a friction pinion at right angles to it and may be moved from the center to the edge to change the speed of the rewinding.

No. 2,231,548 — Method of Projecting Pictures. *Gerald F. Rackett*, assignor to Technicolor Motion Picture Corp. Appln Sept. 20, 1939. 6 claims.

A method of correcting films for use in a projector which forms a bright spot on the screen, consisting of making a positive of the projector-illuminated screen and printing the positive and the usual image-carrying negative on a single corrected positive.

No. 2,231,663 — Neutral Gray Sound Track. *Ralph M. Evans* and *Wesley T. Hanson, Jr.*, assignors to Eastman Kodak Co. Appln. May 6, 1938. 6 claims.

The method of forming a sound track in photographic film which comprises developing the sound track in a coupler developer containing a p-benzyl phenol coupler and an aromatic amino developing compound.

No. 2,231,665 — Loop Forming Member for Sprocketless Film Handling Apparatus. *Henry N. Fairbanks*, assignor to Eastman Kodak Co. Appln. July 22, 1938. 7 claims.

A sprocketless camera or projector having a pair of posts, each adjacent the end of the pressure plate, and located so that the natural resilience of the film forms loops.

No. 2,232,056 — Production of Color Film Having a Silver Sound Track. *John Eggert* and *Hans Friedrich Nissen*, Germany, assignors to General Aniline & Film Corp. Appln. Nov. 26, 1937. In Germany Dec. 2, 1936. 7 claims.

A method of producing a silver sound track image on multi-emulsion color film by exposing and converting one of the emulsions to a color and silver image, converting the silver to a different silver halide, and then re-exposing and developing the silver bromide sound track and removing the silver halide.

No. 2,232,144 — Method for Making Composite Motion Pictures. *Ferdinand Method Sersen*, asignor to Twentieth Century-Fox Film Corp. Appln. Nov. 12, 1938. 6 claims.

A method of making composite pictures by taking a foreground negative, making an enlarged negative of it and manually opaquing the part to be seen in the final picture and bleaching the background, and then using this as master mask for both the foreground and background film.

No. 2,232,774—Method of Scanning or Projecting Motion Pictures and Other Pictures. *Jacob Z. Deninson*, New York. Appln. Feb. 7, 1938. 3 claims.

A method of securing stereoscopic projection with a single film having a single row of longitudinally successive and equal frames which have aligned edges and which show objects in different relative positions.

Newsreel Equipment Stolen

Dear Mr. Aller:

Some newsreel equipment has been stolen from our sound car here in Chicago. I am enclosing herewith a complete list of the items lost and their serial numbers. Would you kindly post this list on your bulletin board, and also would like to have it published in the International Photographer. The insurance company is offering $250.00 reward for its return. Because of the nature of the merchandise, it would be very difficult to dispose of this stuff except among professional operators. Any cooperation you give will be greatly appreciated.

Sincerely yours,
Jack Lieb,
Midwest Bureau Mgr.
News of the Day.

1. Case containing Audio Akeley Camera No. G125, and focusing tube for same.

2. Brown leather case containing Bell & Howell Eyemo Camera No. 4423, with Hugo Meyer Lens, F1.5, No. 294616; also six (6) 100-foot lengths of Super XX film.

3. Utility case containing changing bag, two (2) 800-foot rolls of Super XX film; labels for shipping; caption sheets; batteries, etc.

If all or part of the stolen equipment is discovered in your district, please notify Mr. Allen, of the Commercial Union Assurance Co., Ltd., 175 West Jackson Blvd., Chicago, Illinois, by wire collect.

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TRADEWINDS

First Accessories Kodak Ektra

● Six accessory items for the new 35mm. Kodak Ektra—including a special flash synchronizer, ground-glass focusing back, view finders for high, low, and right-angle work, a close range-and-view finder, and a special tripod clearance head—are anounced by the Eastman Kodak Company, Rochester.

The accessory Close Range and View Finder is intended for use with the 50mm. Kodak Ektar f/1.9 lens at distances from 3½ feet down to 1½ feet; and with the addition of the Kodak Portra 3+ supplementary lens, down to 10½ inches. The price is $40. This accessory can also be obtained, on special order, with a specially-calibrated focusing dial for use with the 50mm. Kodak Ektar f/3.5 lens.

The High-Low Angle Finder permits the Kodak Ektra to be used conveniently from waist-level when used on a tripod or other firm support, as well as overhead—thus greatly extending the user's choice of viewpoint. It covers the field of the 50mm. lenses, slips into the universal accessory bracket on top of the Ektra, and will retail at $15.

The Right-Angle Finder for the Kodak Ektra is of particular use in obtaining unposed shots, as well as for shooting in cramped quarters where it is inconvenient to face the subject. Its price is $10.

The Ground Glass Focusing Back for the Ektra possesses several interesting design features, which fit it both for accurate and studied composition of general scenes, and for extremely critical focusing on close-up subjects—such as table-top scenes, medical specimens, and line or tone copy. The price is $25.

The Ektra Flash Synchronizer attaches to the top of the camera by means of the Ektra's accessory clip, and the tripper unit is simply screwed into the cable release opening of the camera. The price is $17.50.

The Kodak Tripod Clearance Head for the Ektra is a compact, inexpensive unit which raises the camera a short distance above the tripod head. This allows the hinged cover of the Magazine Back to be opened for loading or unloading, or another Magazine Back to be substituted, without removing the camera from the tripod. The price of this unit is $1.25.

Agfa Ansco Adopts 68° Temperature Standard

● After lengthy study of all factors involved, a new temperature standard has been adopted by Agfa Ansco, specifying a value of 68° Fahrenheit (20° Centigrade) for the development of Agfa *films and papers*. Recommendations have formerly called for a developing temperature of 65° F. with films, 70° F. with papers.

Chief among the reasons for establishing the new temperature standard has been the desire to simplify existing separate recommendations on film and paper development which have in the past been a source of some confusion. Related to this condition has also been the realization that developing solutions can usually be maintained more easily at 68° than 65°.

It is expected that photographers using Agfa materials will experience little or no difficulty in changing over to the new standard and maintaining uniform quality in their results. Current issues of instruction sheets and booklets for Agfa photographic materials will obviously not be in agreement with the new temperature standard, but this situation will be corrected as new editions are printed incorporating the 68° F. temperature standard.



New G.E. Photoflash No. 50

G. E. "Speed Midget"

● Development of a new and revolutionary photoflash lamp producing a flash so brief as to freeze moderate motion and so fast as to greatly simplify synchronization was announced by General Electric's lamp department at Nela Park. It is called the G-E Mazda Speed Midget Photoflash Lamp SM.

Although the SM has the same shape and size as that of the popular G-E mighty midget No. 5 flash lamp, it comes to peak of flash in 1/200th of a second. In other words, the flash of the new "speed midget" lamp reaches its peak four times faster than does the flash from the No. 5 or the flash of any other G-E synchro-press lamp.

The new source produces only about one-fourth as much light as does the G-E No. 5 midget bulb. Nevertheless, the SM's flash has been found to be ample when used with the improved films now available. Thus the SM fits into the trend toward ever-faster film speeds, better lenses, and smaller equipments.

Human and animal subjects photographed by the new speed midget seem to be less aware of its mild flash of short duration than they are of flashes produced by other photolamps.

Unlike other types of photoflash lamps, the G-E SM lamp employs no aluminum leaf, free wire, or shredded foil within its bulb. Instead, a small amount of chemical paste applied to the ends of the lead-in wires (in an atmosphere of oxygen) produces the SM's rapid flash. List price 13 cents.

Beattie Hollywood Hi-Lite New Catalog Ready

A new catalogue of magazine type is now coming off the press for Beattie's Hollywood Hi-Lite Co., manufacturers of fluorescent and incandescent lighting equipment for photographic studios. The publication is said to include reproductions of the finer work of some of the nation's leading still photographers, illustrations and methods for obtaining dramatic lighting effects, as well as a complete and informative description of the new models brought out this year by this firm.

Copies are free on request to readers of International Photographer at the main offices at 1560 North Vine Street, while a Beattie equipped studio is open for the inspection of both professionals and amateurs.

Kodachrome Processing Now Possible at Three Places

● Kodachrome Film in the 35mm. and Bantam sizes can now be processed at laboratories in Rochester, Chicago, and Hollywood, and should be sent to the nearest one, the Eastman Kodak Company announces. The addresses are:

Eastman Kodak Company, 1017 N. Las Palmas Avenue, Hollywood, California; Eastman Kodak Company, 1712 Prairie Avenue, Chicago, Illinois; Eastman Kodak Company, Rochester, New York.

New Address Landers Camera Rentals

● Landers Camera Rentals has moved and is now located at 6373 DeLongpre Avenue, near Ivar Street, Hollywood. This is only a few blocks from the old location and the phone number remains the same. Sam feels that his customers and friends will find it easier to park their cars near the new DeLongpre address.

Powerful New G. E. Photoflash

● A new powerful photoflash lamp—designed especially for the taking of color photos and news pictures of scenes covering considerable area—has just been announced by General Electric's lamp department at Nela Park, Cleveland.

Designated as G-E Mazda Photoflash Lamp No. 50, the new source is rated at 100,000-120,000 lumen-seconds of light output. Its peak lumens are given as 5.5 millions. Light output of this new lamp, therefore, is double that of the familiar G-E Mazda Synchro-Press Lamp No. 21, is two-thirds that of G. E.'s huge No. 75 foil-filled photoflash lamp.

That so much light can be generated by a flashbulb not much larger than the No. 21 lamp is attributed chiefly to the shredded foil with which the new No. 50 is filled. The No. 50 comes in an A21 bulb, has a maximum over-all length of 5⅜ inches, and is equipped with a medium screw base.

The G. E. No. 50 comes to peak of flash in .03 seconds. It has a list price of 22 cents.

New Agfa Film for Fluorescent Screens

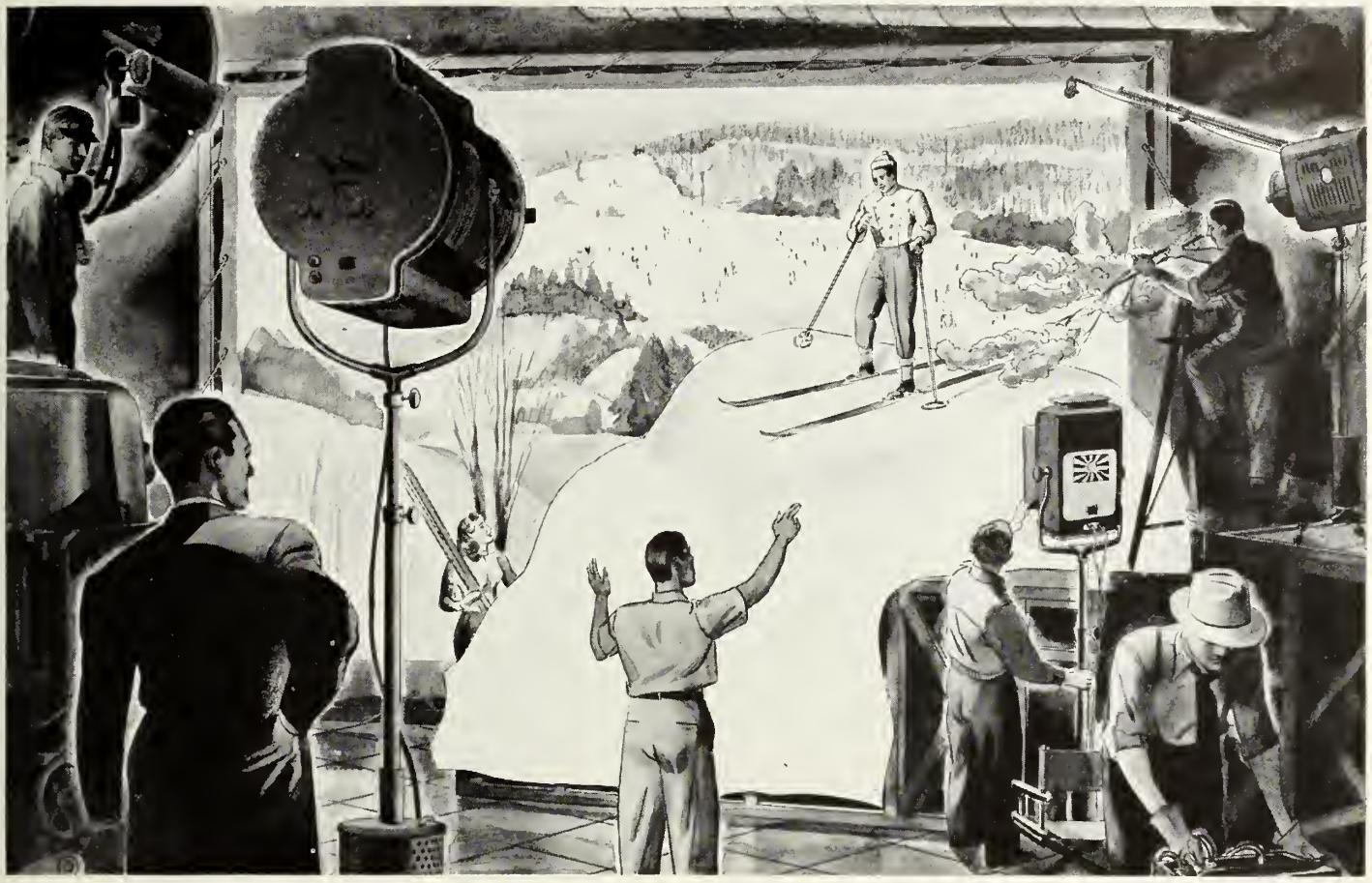
● Agfa Ansco announces a new film known as Fluorapid, which is ideally suited to the direct photography of fluorescent screens. It is available in various lengths of perforated 35 mm film stock. Further information may be obtained by writing Medical Film Division, Agfa Ansco, Binghamton, New York.

Agfa Minipan and Minipositive Films

● Photographers and documentary technicians engaged in microcopying will be interested in two current developments affecting Agfa films used in their work. The films involved are Minipan and Minipositive.

Agfa Minipan film, the new and yet already popular film of high resolving power for microcopying, is now supplied at a new, *lower* price. The 100-foot darkroom-loading and daylight-loading 35mm. spools now list at $5.25 each.

Agfa Minipositive, a new film with an emulsion having special characteristics essential for microcopying, is now available to complement the function of Agfa Minipan. The standard 100-foot length, perforated or unperforated, darkroom-loading spool of Minipositive lists at $3.75. For prices on other sizes and additional information address Graphic Film Division, Agfa Ansco, Binghamton, New York.



Process Photography *calls for*

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● The use of carbon arc foreground lighting in process photography insures perfect blending with the light coming through the screen. Modern studio arc lamps supply light of daylight quality, the same as the high intensity arcs used for projecting the background scene.

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TELEVISION

By DUSTER EVANS

No truer word was spoken than that bromide of the screen, "There's Gold in Them Thar Hills!" and a direct implication to the hills of Hollywood and their immediate hilltops, which today are swiftly being converted into telecasting tower sights. Already has the Don Lee Broadcasting System completed their elaborate three story station, W6XAO, atop of Mount Lee. This physically represents the first of several stations to follow for the telecasting of sight and sound images to a patiently awaiting audience, and we say patiently, for only too often has this writer or that precocious personality predicted that "Television was Just Around the Corner!"

Just to the west of the Don Lee site stands another two thousand feet high hill top with its 900 acres adjoniing, which has been acquired by the Howard Hughes organization and recently surveyed for extensive development in keeping with the announcement that the Hughes' interests had acquired a telecast license and had planned to immediately invest over a million dollars in experimental research. What comes off the Hughes draughting board remains to be seen, but from past performance we can bet that it will be nothing short of stupendous.

Not to be caught napping, some enterprising Hollywood realtor has already inserted an ad in the local paper that reads: "For Sale: Television Enthusiast, here is an opportunity to acquire unexcelled building site in direct line with Station W6XAO. Phone Hollywood 0000."

Today, television has arrived. It is here, and with it a fellow newcomer to the scene, Frequency Modulation, that staticless companion, approved by the Federal Communications Commission for furnishing pure tone quality, together with the flickerless pictures. And that constitutes television as approved after six months of deliberation; after the "Go" sign was given and then turned off officially. The recommended 441 lines of scanning per picture remains, as well as the succession of 30 pictures per second. Thus, receivers already in use will be able to continue in use without having to have changes made in the picture transmission circuits. But, as the advent of FM for the transmission of the sound will necessitate revision of the receiver sound circuit, then Chairman Fly of the Federal Communications Commission was justified in holding back the sale of receiver equipment as of six months ago, which would have required revision of construction and consequent added expense to that of an already expensive piece of equipment. Of course, this will have to be done to those receivers formerly in operation with Amplitude Modulation.

What has the cameraman done to prepare himself to take his place within the ranks of television production? It is highly enlightening to look back over the pages of The International Photographer, and note how closely the editors have followed the progress of television. Also to note the constant reference to that most important position of tele-cameraman.

Therefore, we quote William L. Prager, as of February, 1935:

"It will be a little longer before the studio cameraman need worry about his presently secure position. But, at the same time, my advice to him is to be prepared to then come into his own, for, with the coming of television—and it is coming, just as sure as fate—the cameraman who in the past has often shouldered the added tasks of radio operator and even navigator on many a film expedition, must now be mentally equipped to meet the requirements for the taking of 'film transcriptions' for television broadcast as well as the shooting of 'direct pick-ups,' otherwise there are going to be many new faces seen behind the cameras of the future."

Six short years have come and gone, and today many a cameraman has taken advantage of an opportunity to try his hand at operating one of the television cameras at the Don Lee Studio, or as a guest of an Eastern station.

As we go to press, Television stands ready to give a good accounting for itself. Only the setting of a date as to when telecasters may sell picture programs to advertisers remains. The National Television Systems Committee, as set up by the Radio Manufacturers Association, has given back to the FCC and the industry a set of standards that they could not but accept.

As for the future, let us lift our eyes to the mountains, for from the tops of these "hills," there is to be presented to America a new medium of entertainment, only limited in scope by the actual mechanical addition or construction of television image booster stations, accompanied by their perfected audible companion, Frequency Modulation, which will in much resemble the beacon stations of the airways of today from Coast to Coast.



Captain William L. Prager lecturing on Dumont Cathode-ray Tube.

HERMAN A. DE VRY, PIONEER

By DUSTER EVANS

HERMAN A. DEVRY, founder and president of the DeVry Corporation of Chicago, is credited with being one of the real pioneers in the Motion Picture Equipment and Electronic field.

One of his activities in particular, brings out the progressive far-seeing qualities of the man.

For some time past, Mr. DeVry has been impressed by a situation in the technical side of the Electronic business. He felt that far too few young men were preparing themselves for skilled work in this field. He was aware that not only he, but also various other manufacturers in the growing field of Electronics must have trained men to manufacture, install and service equipment in order to help the industry as a whole prosper.

It was this situation that prompted Mr. DeVry to sponsor and finance a modern training program for preparing young men for this type of work. Accordingly, he established DeForest's Training, Inc., 2533 N. Ashland Ave., Chicago.

This industrial training organization has a practical and modern training laboratory set up for this purpose—and just recently a new plan of training has been worked out that is another important step forward. The methods employed are thorough and highly effective. They are based upon practical facts gained while actually preparing young men for a successful career in this field.

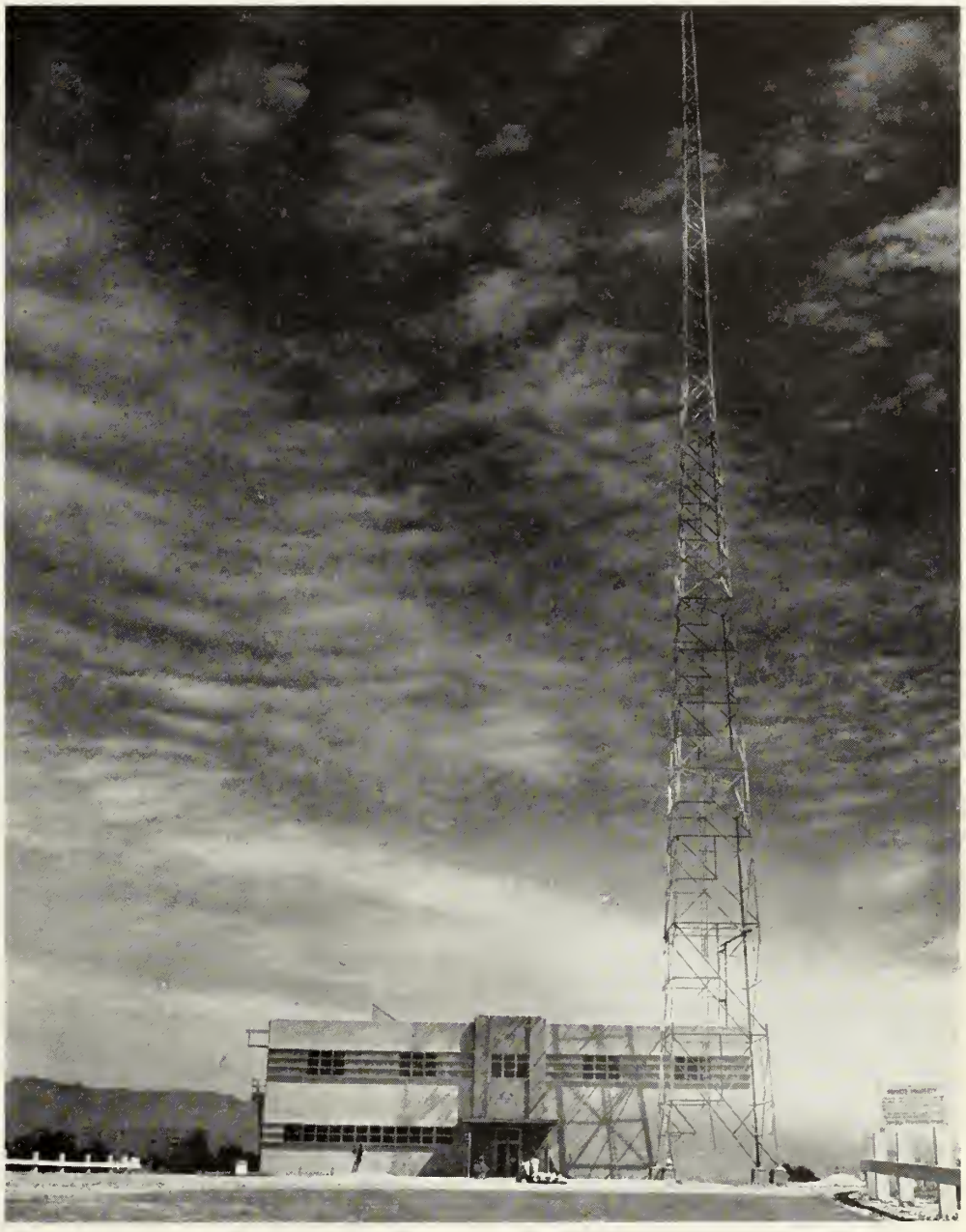
In addition to the use of loose-leaf assignments covering the necessary theory, a young man is provided with visual instruction by means of motion pictures in his own home. He is also loaned a series of reels of film which contain animated diagrams and drawings. This feature helps to present important fundamentals in the training in a way that is far more interesting, more easily understood, and much less likely to be forgotten.

But theory and visual training make up only one part of the training program. For to help a young man get the valuable practical experience so important and necessary today, the program provides for actually setting up a laboratory in the home of the student, so that he can make his own experiments on a variety of electronic equipment. Also, the student has at his disposal the organization's own very fine laboratory in Chicago. Being a practical man himself, Mr. DeVry has thus made generous provisions for giving young men an important practical background.

Naturally, such a combination of benefits in one training program is bound to bring significant results. There are undoubtedly a large number of young men in this country who would greatly desire the fine opportunity to prepare for Electronics through the medium of an organization like DeForest's Training. But Mr. DeVry insists that only the proper type of young man should have this opportunity — the young man who seems to have certain qualifications that should tend to make him successful in preparing for and making a start in this work.

DeForest's Training today is a tribute indeed to the far-sighted thinking and pioneering that has made Herman A. DeVry a leader in the field of Electronic Equipment and education, for so long a period of time.

Those wishing to enter this field may secure information by addressing the author, care of International Photographer.



The Don Lee Television Station, W6XAO, with the highest television antenna in the world. Two thousand feet above sea level, seven hundred feet above that of the Empire State Building in New York City. *(Photo by Al Nimigean.)*

SMPE Spring Convention

● New scientific advances which have or will shortly benefit the movie goer in every part of the world will be presented and discussed at the 1941 Spring Convention of the Society of Motion Picture Engineers, scheduled for May 5 to 8, inclusive, at the Sagamore otel, Rochester, N. Y. Emory Huse, recently elected president, will preside.

An important feature new to this conclave is a day-long joint session with the Acoustical Society of America, during which a symposium of papers by engineers of the Bell Telephone Laboratories will be presented at the morning and afternoon sessions. In the evening the two groups will witness a demonstration of stereophonic sound by the Bell Telephone Laboratories at the Eastman Theatre.

photo mechanics

By Robert M. Parker,
Instructor of Photography, Frank Wiggins Trade School.

AMERICA is known as a nation producing volume. In the "roaring twenties," the versatile man did not necessarily enjoy many advantages. Men were trained for a specific operation and in the performance of that operation they became remarkably adept. A man employed, for instance, in a large automobile plant, learned to perform his single duty with such speed and ability that he himself was like a smoothly functioning cog in a vast machine, producing machines. He did ONE thing and he did it well.

What he did not realize was the fact that it was not enough. His single skill did not safeguard his future. It was fine while it lasted, but when the depression came it left many such men on an island. They became the great army of the unemployed and the lesson of *over-specialization* became the lesson for an oncoming generation to heed.

The Frank Wiggins Trade School, a free public school, conducted by the Los Angeles City Board of Education, is an outstanding example of how an educational institution can be made a cooperative enterprise and be integrated with the social and industrial life of the community.

The principal of this unique institution









(1) Student sighting through range finder. This young photographer knows not only how to use his camera; he knows how it works. (2) Interior of Kalart workshop in Hollywood, the facilities of which are available to students at Frank Wiggins Trade School. (3) The school. (4) Students working out a problem.

is Leslie G. Stier, its vice principal in charge of women's trades is Miss Estella L. Churchill.

The school's curriculum includes a course in photography which is recognized as outstanding in California. The objective of this school is to prepare people for skilled occupation and at the present time it is serving 3,400 individuals in fifty-five different occupations, comprising some 203 employment levels.

In the photographic field, in particular, the lesson of specialization will mean that our young photographers must be trained in self reliance and an understanding of the scope of photography, as well as in the skills that supplement it, in order to contribute to its successful performance.

For photography is a strange admixture of artistry and ingenuity. The part referred to as ingenuity covers a remarkably large territory, from the building of sets and backgrounds to the adjustment and repair of mechanical devices.

To the uninitiated this is surprising. For instance, at Frank Wiggins Trade School, we find that most applicants for a photographic course are puzzled when asked if they have a knowledge of the following: Woodwork, machine shop practice, sheet metal work, bookkeeping, business management. They can understand the questions concerning art, chemistry, camera operation and processing; but where, they ask, will they be using machine shop practice as well as work in wood and metal.

The commercial photographer, however, is well aware of the advantages of possessing such skills, for there are many occasions which require the fashioning of sets and backgrounds, or the adjustment, repair, and even the construction of various mechanical devices. If he is an expert and experienced man, he realizes the importance of keeping things in working order. When a job is promised it must be delivered on time, and the photographer may be forced to use his ingenuity to overcome unexpected obstacles.

The present day photographer often finds it necessary to repair his own camera and shutter and since other new devices have become aids to his work, there, too, in this close contact with the tools of his trade a man acquires a respect for his material and equipment, sort of reverence if you like, for the finely balanced, delicately precise mechanisms with which he deals. He knows what he can do with his equipment, and he knows how he can do it.

It is our problem, then, to supplement the training of students in our photographic classes with as much experience in photo mechanics as is feasible. The young man of today, living as he does in a world of machines, has a certain natural curiosity concerning them, but insufficient opportunity for close acquaintances, especially in the field of fine mechanics. In meeting this situation and supplying a need that daily grows more acute in the present day crisis in world affairs, the Frank Wiggins Trade School has played an important role and offers a wide variety of courses both extensive and intensive and designed to train as many students as possible in various fields.

In the field of Photo Mechanics the Frank Wiggins Photographic class has been particularly fortunate in obtaining great cooperation from the Kalart Company of New York and Hollywood. Miss Dubin and Mr. Weston of the Hollywood branch have made it possible for the students to round out their course of training in Photo Mechanics. The instruction is given by Mr. Weston and the students report to his laboratory in Hollywood, where they are given a thorough training in assembly, installation, adjustment and repairing of range finders and flash synchronizers. Miss Dubin keeps a record of the progress of each student and recommendation is made in respect to the future of each.

In some cases it has been found that the student develops an exceptional aptitude for this work and if he desires to follow it for a vocation, a place in the industry usually is found for him. Those others who do not follow Photo Mechanics as a vocation discover that their experience helps them to keep their equipment in good condition.

"Dive Bomber" Troupe Working at Naval Base

● Headed by Errol Flynn and Fred MacMurray, a company of 150 actors and technicians from Warner Bros. studio has left here for an extended stay at the U. S. Naval Base at San Diego, where many scenes of the Technicolor special, "Dive Bomber," will be filmed.

Capt. J. M. Popham and Commander Seth Warren have been assigned by the Navy Department to advise Michael Curtiz, director of the picture, on all matters of naval and aviation technique and procedure in connection with production of the film.



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Tay Garnett Signed by RKO

• Tay Garnett, for many years one of Hollywood's top megaphonists, has been signed to direct RKO Radio's "Unexpected Uncle," which Erich Pommer will place in production about May 1st.

Garnett, who recently directed "Cheers for Miss Bishop," has a lengthy list of splendid pictures to his credit, including such successes as "Seven Sinners," "Slightly Honorable" and "Eternally Yours."

THANK YOU, GREGG TOLAND

By HUGH MANN BIING

OUR congratulations to Gregg Toland for his article on "What is Good Photography?" in the March issue of INTERNATIONAL PHOTOGRAPHER. At last here is some light, for information is a form of light, and a word of encouragement to the other members of the photographic division; men who do not receive Academy awards; men who never are given screen credit; men who seldom are mentioned in publicity, but men who valiantly have fought and labored for better photography.

Do they ever get a good word? Seldom! Instead it is mostly destructive criticism, such as "this is out of focus," "too much headroom," "hurry up with that camera," "let's get a Western load," "correct that slate," "bad composition."

Do they receive instruction or even a hint on what is good photography? Hardly ever. Just because we did not receive any help in any of our days (who was there to give any?), just because our bosses kept exposure on exteriors so childishly secret, is no reason why we should not help these "boys," some of who are now grey haired.

When a doctor discovers a serum he publishes information on it; he lectures on it; he does everything possible to make it known in order that mankind may benefit. Why are discoveries on light so often kept in the dark?

Toland reminds us of El Greco, the famous Spanish, Greek-born painter. Other maestri of light might well follow the steps of "El Greggo" by giving us lectures and articles on their experiences with light, as well as instruct their assistants and discuss the subject with them. Then when the time comes (and I am sure it will) when they are promoted and hand over their jobs to these younger men, they will be proud of them as having been their students.

A truly great artist of photography should know that the sun, our chief source of light, does not stop with each sunset; but a day has gone that never will return. There are many things we can stop, but not old man Sol. As time goes on cameramen of today should be promoted and become the directors, writers and producers of tomorrow.

So let's instruct these younger men, let's give the boys a chance. They are entitled to it and they have waited long enough. Let us see today's cameramen in higher positions and as time marches on see to it that seconds, assistants, loaders and candidates to loaders should become tomorrow's cameramen.

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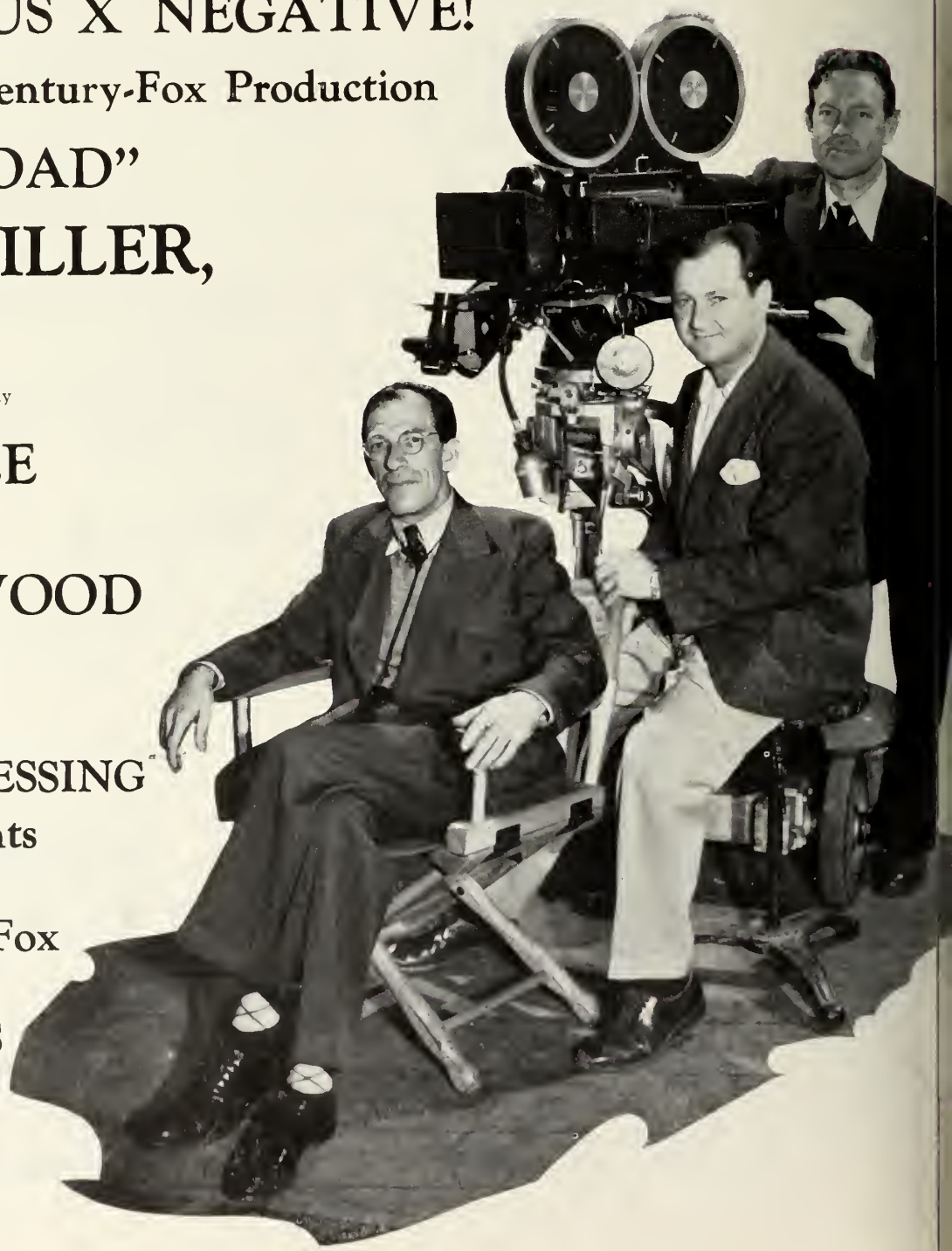
Director of Photography

JOE LA SHELLE

Operative Cameraman

PAUL LOCKWOOD

Assistant Cameraman



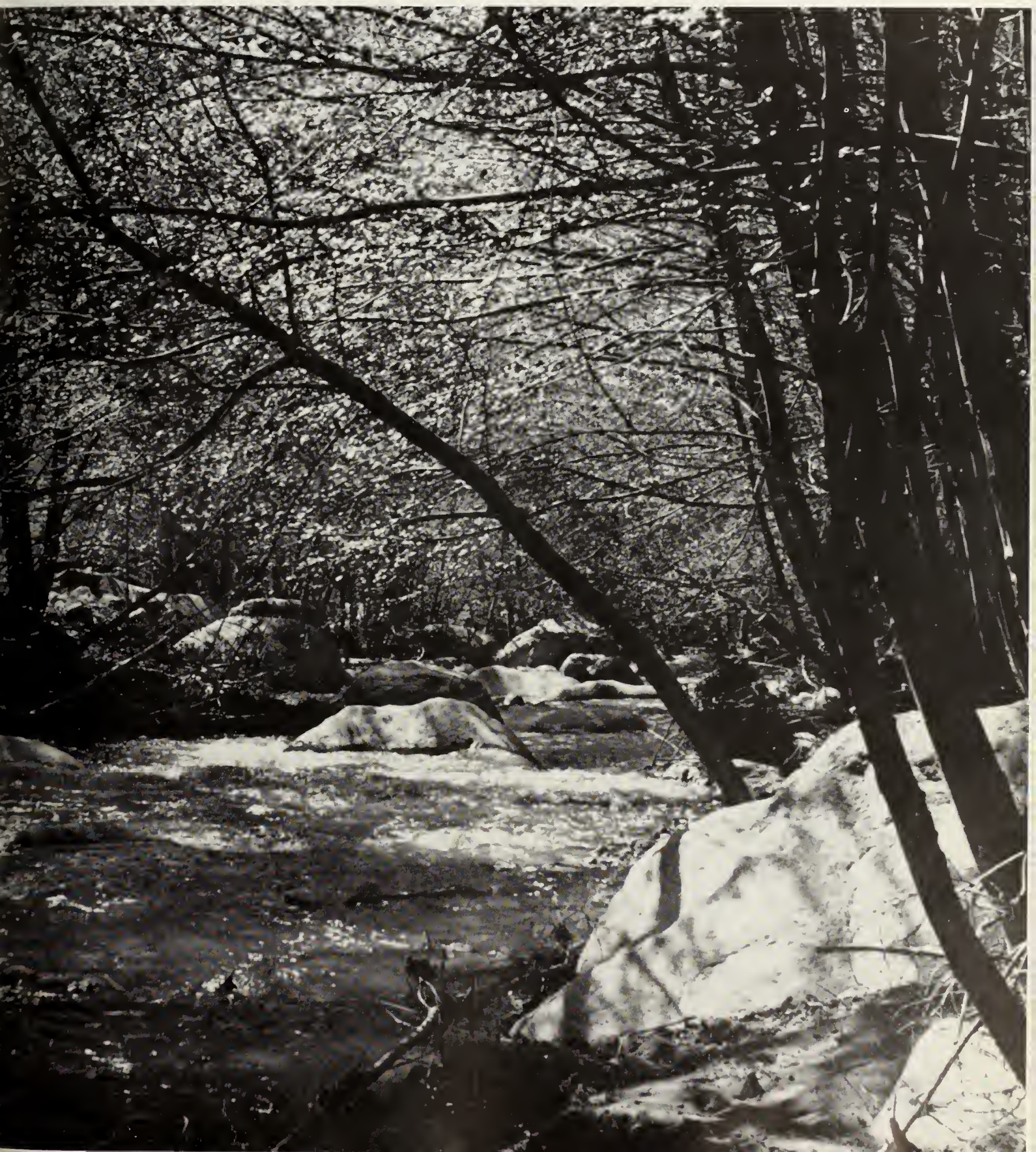
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Vol. XIII **May, 1941** **No. 4**

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NUDE FOR WOOD PANEL — By Luigi de Angelis

THE CINEMA TRIANGLE

By Virgil E. Miller

It's a far cry from the Holy Trinity to the more or less unholy tripod, but between them lies the gamut of triads, triangles, and trinities, involving the mystical number "three", that enters so largely, and sometimes uncannily, into the world's affairs. Our every day, our life cycle, our Universe, our religions, our Physical Science, and other phases of life's phenomena, may be graphically represented by our mathematical triangle and its adaptations. The triangle is symbolic of strength and symmetry; it lends itself to our conception of the completed cycle.

That much for generalities. We will now look for a specific analogy in the work of producing motion pictures — the triangle that must obtain for a perfect producing organization. Needless to say, that triangle exists; sometimes equilateral, but too often irregular, thus giving rise to some of the problems of the studio.

To complete the analogy: It is evident that the author, the scenario-writer, and the results of their labor,—the STORY, form one leg of our triangle. Looking further, we recognize the director as being very important, his work must be allotted a leg in our hypothesis. The third leg of this important triangle must be complementary to the other two legs, but just as important if the triangle is to become a strong, symmetrical whole; it must merge the story and direction into the perfect product, fusing them into a tangible asset, the picture on the screen.

Thus we come to the DIRECTOR OF PHOTOGRAPHY. He must be the instrumentality joining the fundamentals of the other two sides, which, taken with their correlated angles (all other studio help) form our producing organization.

Much could be written concerning the relation to each other of the three sides and three angles; each is dependent on the other, but, being variables, the dependence varies, hence our irregular triangles. Should any one of our three angles become obtuse (try to take in too much territory), the other two, by mathematical law, must become acute (suffer at the other's expense). In other words, should the author, the director, or the cameraman develop a case of ego that is permitted to manifest itself to the detriment of the others, they and their product suffer, their work loses it's intended value. A perfect story, perfectly directed and perfectly photographed, gives us the perfect picture—the perfect triangle. This should be the aim of these three most important units, but this consummation of their united efforts calls for perfect co-operation. Such co-operation most naturally manifests itself between the writer and the director; again, between the director and the cameraman; seldom has it been apparent between the writer and the cameraman. No doubt this is accounted for in that the writer and the cameraman are not nearly so closely associated in their work as the other two groups, but it can be shown that their work is interdependable, and that they can be of much assistance to each other, to the benefit of all.

Space does not permit of our dwelling upon the relation existing between the first two groups, only insofar as is necessary to present the relation between the writer and the director of photography—the general theme of this article.

To be an author (and this includes the scenarist), presupposes a creative imagination, but a creative imagination unsupported by a knowledge of the cameraman's magic is terribly handicapped, for such knowledge equips him with the power of visualization; visualization is the picture alchemist's secret in the transmutation of thought into action. This crystallized thought-action is passed on, through the medium of the screen, to the audiences whose ultimate reactions are a measure of box-office returns, the only criterion of success or failure in this mighty industry. The cameraman-sculptor, with chiseled light and object composition, is the medium of this thought transference; if the screen fails to properly present the writer's thought, there is an evident weakness inherent in the structural set-up, the triangle is un-equilateral.

Is this condition due to a certain disrespect accorded the cameraman because his work in the past has been partially manual? Perhaps, and if so, it has been reflected back in the lost potentialities of both story and direction. I do not like to think that the above condition exists at the present time, but I do believe that the cameraman has not received and does not receive the credit due him in the success of a picture; he too often has been considered a mere mechanic, instead of a person best fitted to clothe the writer's thought that it may be best presented to the world at large.

A knowledge of the manual labor connected with the photographing of a production, and a general understanding of photographic terms and equipment, does not prove of much worth to the writer; he must know, or be told, of the ultimate results that may be obtained through trick work, composition, color values, and most of all, the multitudinous values of light and shade, for after all, photography is but the recording of light and its many manifestations. Let him master these fundamentals and he can then consider himself in a position to work more smoothly with the man responsible for bringing to life his brain children. But since most writers do not have the time or inclination to master the details of cinematography, they should not ignore the help that a cameraman is always ready to give, not so much in plot-building, but in the rendition of characters and creating the proper atmosphere in which they work.

As the writer's success is dependent on the screen success of his brain-children, we can readily see how poorly rendered characters, in an atmosphere that doesn't "ring true," will greatly off-set the picture's success, even with an excellent story plot, for the audience does not see the picture conceived in the writer's mind. The Director of Photography, knowing the desires of the author, can transfer them to the screen in such a way that the audience lives and laughs and cries and forgets that they are merely beholding a story's unfoldment. He can light his "sets" so that the intangible thing called "atmosphere" becomes tangible and real; he can heighten any characterization or portrayal by lighting it in such a way that the audience associates it with their own ideas of such visioned environment; it exists as they imagine in their own experiences, and you have a sympathetic audience.

It is not for me to detail the various types of lighting necessary in creating "atmosphere"; an underworld "den" may be weird, shadowy, and suggestive; underlighting, or from beneath, is associated with infernal fires, and so on through the whole gamut of effects. Suffice to say that the cameraman who can most nearly "bring to life" the visualization that a creative writer must possess in order to create, will most truthfully invest the characters and their environment with their proper and most believable picturization.

The camera's magic and "untruthfulness," properly understood by both writer and director, may be made to augment the writer's conception as he writes; incorporating them in the original thought, they are not weakened as in the case of being added later as "lean-to's" or afterthoughts. Process backgrounds and projection printers make possible the impossible of a few years ago; they are the Aladdin's Lamps that transport us into the past or the future; make fantasy real and turn realities into fantasy. These things are possible because the camera can be made to tell untruths, but in "lying" it speaks a great truth. The camera is only a thing of metal, a dead thing until touched by a Midas of Thought. Guided by the cameraman's knowledge of its functionings, coupled with his years of experience in properly "balancing" the composition of objects

and light, the camera performs its miracles that transforms the writer's abstract thought into concrete images, that he who sees may enjoy what another man may have only thought.

It is such knowledge as this that the writer must have or be able to obtain to enable him to further his story values and give his audience cause to see more of his visualized thought. If the Director of Photography can, with his lighting, illusions, and controlled "atmosphere," enable the writer to better his product by more closely co-operating during a story's inception, he immediately simplifies the director's problems and enables him to turn out a better product.

In other words, this tri-mutual effort on the part of the writer, director, and cameraman, should strengthen the triangle of co-operation so necessary to the ultimate benefit of their combined as well as individual efforts, and result in a better picture for the producer whose money makes such "triangles of effort" possible.

IN DOLLARS AND CENTS

(Based on reports of the Bureau of the Census, Department of Commerce.)

MOTION picture production in the United States, measured by dollar cost, has increased approximately three-fold in twenty years. The annual production budget now exceeds 215 million dollars a year, compared with 77 million dollars in 1921; 86 million dollars in 1923; 93 million dollars in 1925; 184 million dollars in 1929, and 197 million dollars in 1937. The figures released by the Census Bureau covered the year 1939, as reported for the Decennial Census of 1940.

The costs listed include laboratory work and positive prints, but do not include any part of the cost of distribution and exhibition. (A Census report recently issued showed the annual intake of motion-picture theatres at $673,045,000.)

The unique nature of the picture production industry is indicated in the Census report. More than 93 million dollars was paid out in executive, supervisory, clerical and star salaries, representing nearly 50 per cent of all production costs. Wages paid to skilled and unskilled manual labor amounted to less than half of the salaries paid to executives and creative talent.

Of the $215,664,929 total cost of production, pictures produced in California cost $186,848,971. The amount expended in New York State was $18,059,670.

The report does not permit a determination of the average cost per negative because $38,031,356 represented investments in unfinished productions at the end of the year. The number of feature subjects included 193 in black and white and 27 in color.

Approximately $6,000,000 was expended for short subjects, a substantial increase over 1937; $6,415,573 was expended for positive prints, and nearly $4,500,000 for news reels.

Industrial films produced during the year cost more than $2,100,000, compared with $855,782 two years earlier, and educational films expanded to over $725,000 from $320,000 two years earlier.

Although the production of motion pictures is not a manufacturing industry, its commercial importance is so great that data in regard to it have been collected at the biennial censuses of manufactures for 1921 and subsequent years.

The "Motion pictures, not including projection in theatres" industry, as constituted for census purposes, embraces all processes and activities connected with the production of motion-picture films, such as the preparation and photography of scenes, the development of exposed films, the printing of projection films, and other studio and laboratory work necessary in connection with the production of projection films for use.. *It does not, however, include the distribution of these films and their projection in theatres.* No data are included for establishments that reported less than $5,000 as the cost of work done during the census year.

The salaried personnel reported for this industry comprises officers of corporations, supervisory and clerical employees, and also many productive employees, such as scenario writers, unit managers and assistant directors, actors, technical employees, and extra talent. The wage earners are those engaged chiefly in skilled and unskilled manual labor, and comprise carpenters, painters, prop makers, laboratory and wardrobe workers, property men, etc.

This item includes the cost of work done in 1939 on films that were completed after the close of that year, but does not include the cost of work done prior to 1939 on films completed within the year. It does, however, include receipts for laboratory and other work done for others, and for use of studio facilities.



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MORE HISTORICAL FACTS

INADVERTENTLY, in our March issue, certain points which should be of interest to our readers were not mentioned in Ira Hoke's article, "Some Historical Facts." Therefore, we quote a letter received from Agfa Ansco, Binghamton, New York:

"Mr. Herbert Aller, Editor

INTERNATIONAL PHOTOGRAPHER,
6461 Sunset Boulevard,
Hollywood, Calif.

Dear Mr. Aller:

"In looking over the March issue of INTERNATIONAL PHOTOGRAPHER, we noticed an article entitled "Some Historical Facts," by Ira Hoke.

"This seemed to neglect completely any historical facts regarding Agfa Ansco or our contributions to the photographic industry, which of course includes the fact that we own the original patents on roll film or 'flexible' film and that our Superpan Press and Ultra Speed Pan were the first modern high-speed films as we know them today.

"Naturally with 99 years of history as an American manufacturer, there is a pretty sizable list of firsts that are attributable to us, and of course a great deal of the modern improvements in photography are the results of our research. Therefore it seemed a little peculiar that in this article, "Some Historical Facts," no mention was made of this.

Cordially yours,
ROBERT M. DUNN,
Advertising Department."

"ART" ON A MOUNTAIN TOP

By Ray Fernstrom

BACK IN 1928 when I was still a newsreel cameraman, the boss used to say, "Cut out the ART and get the picture!" But, after all, I thought, what was the use of studying all over Europe (there was one then) the art of the great masters unless I found an outlet for the knowledge I was sopping up? It seems I was in the wrong end of the game, so I cut the news and strove for art. Sketching and painting were slow for my temperament, but color intrigued me. In 1930 I was back in Europe shooting travelogues in color, thus having a lot of fun combining my studies with actual practice. All the patterns, balance, forms and curves provided by Nature, from the floor of the desert to the highest mountain tops, and the habitation upon them, were the subjects painted by my camera. And the top of a mountain was one of my most recent subjects, animated with the flying feet of a dozen expert skiiers.

Leon C. Shelly, who produced the novel travel film "Beautiful British Columbia," sent for me to produce his latest, one on sports. Having just finished four other color shorts on sporting events for Del Frazier at Warner Bros. I guess Mr. Shelly thought I must be in such fine fettle that he need not explain exactly what the sport was to be. All I knew was that he had some snow stuff in mind. I thought we would drive out in his car to some snowy location, set up, shoot, and rush back to the hotel and re - - - lax. That was about the speed with which we shot each sequence last summer and aforesaid reel of "Beautiful British Columbia" ended up with 187 such snappy scenes, more or less artistic, depending upon whether you and the audience like my style of art with a color camera.

With black and white we grab ourselves the various films we want, a flock of filters from the palest yellows to deep brown, reds that compete with the spectrum, diffusers of our choice and a lot of burned gauzes, as well as other colored filters and graduates. In color we are really beginning to do the same thing. Personally, still striving for that art, I utilize practically as many pieces of glass and cloth as do many of the camera gentry of the major studios of Hollywood. It doesn't make a bit of difference as to the color process being used. For example, on many scenes of "Beautiful British Columbia" I had as many as four elements of glass and cloth in front of the lens. My pet is a neutral density polaroid disk that Land, the Boston inventor, made for me back in Boston when I shot a "Popular Science" subject of his business, Polaroid. There is no color at all in this disk and it is one of the best color gadgets available for color shooting when the angles of light and shooting prove right by visual check. With experience it is easy to know the best times of day the sun angles for Polaroid so that the artist can get the utmost "painting" with this aid. This, combined with other filters to balance the exposure in scene and sky, another to correct for the color of daylight, plus gauzing for edges where sharp tree branches might give one ocular lacerations, really brings out the most beautiful aspects of a particularly pleasing composition. At least it pleases the photographer, and if many who see it are pleased you get a slow elation of not having wasted years of art study with pencil and brush.

We know that all nature is beautiful, but the photographer who really can lay claim to being an artist is the one who chooses for the composition of his scene that most beautiful position and angle from which to shoot. Then he selects that lens which will gather in the greatest amount of beauty in the compositional limitations of the Academy projection aperture limits. My camera has a ground glass which shows me exactly what the projection screen area is going to be. Thus I see on the ground glass exactly what the audience is going to enjoy or reject. So . . . in my search for beauty . . . and beauty is my business, I answered the call of Shelly and hopped a train for Canada.

Too late I found out that our location was the top of a mountain! We had to climb it, Mt. Revelstoke, up near the Canadian Rockies, a climb of five miles to 6500 feet at the summit. There was a chalet where we were to live . . . we had to pack the equipment on our backs . . . and make it on *skiis*. I hadn't been on skiis since I was a kid. What a herringbone, or reasonably accurate facsimile. I pounded into the upward path of that mountain! After eight hours we finally made it. Wolfing supper, I went to bed and slept like a pretzel until dawn. Awakened by "Come and get it," I joined the galloping throng in to breakfast, but my gallop was more the waddle of a sidewinder. I felt as if I'd slept with skiis, pack and poles on.

Breakfast was good and the scenes through each window the most magnificent picture material ever laid before me. The snow-capped Canadian Rockies, balsam trees (picture trees, I called them last year), now heavily laden with thick new snow, all against a gorgeous blue sky and fleecy clouds here, thunderheads there. Dessert before breakfast.

The temperature outside was near zero, so I had to wash the oil out of the camera. Naturally one never takes equipment into warm rooms, so no difficulty was experienced at any time in regard to the camera. We rigged a skii sled for toting the outfit about the top and upper slopes, but the boys had a hard time of it. Skiis did not work while towing or pushing the sled, so we tried snow shoes. Without these we sank to our hips through the crust.

Shelly, the producer, is an expert skiier and raved about the snow as being the most perfect he'd ever seen for sport. To me it was all pretty pictures. Art came easy at first. We worked slowly away from the chalet, shooting in all directions as paintings presented themselves.

All we had to do was animate them with

(Contnuied on page 12)



Ray Fernstrom and producer Leon C. Shelly



Deanna Durbin, photographed by RAY JONES, Universal. First prize (gold medal), Novelty in still picture.



Judy Garland and Mickey Rooney by ED CRONENWETH. First prize, best action still, Metro Goldwyn Mayer.



Brenda Joyce by FRANK POWOLNY, 20th Century Fox. Second place winner, best fashion still.



Marlene Dietrich by RAY JONES, Universal Studios. First prize for best action portrait.

"NECESSARY EVIL" GETS HIS FIRST BREAK

A letter to International Photographer anent First Annual Salon of the Still Photographers of the Motion Picture Studios of Hollywood

Since the writer appears to be more or less well known to the membership of Local 659 and prefers to speak his alleged mind without fear or favor, let or hindrance, and will in all probability take a few candid shots at his friends WHO HAVE MADE THIS SHOW, we have promised Jim Doolittle that this letter will be published anonymously.—Editor.

Dear Sirs:

The other day while giving my desk a long threatened cleaning I came across the announcement of Hollywood Studios' Still Photography Show.

"Phooey," phooied I, in my open minded manner, just a bunch of production shots, the hold-it-for-a-still stuff that retards schedules, makes a deficit in the budget, gives the assistant director one more excuse for an intense hatred of mankind, and finds its way into some trade journal that nobody reads!

Calling the City Engineer's Office I found that Gordon Street is a tributary to Hollywood Boulevard and so neatly concealed on the map I had a feeling it was just the proper place to hide a flock of motion picture stills!

Arming myself, figuratively, of course, with a hammer and a couple of fistfuls of adobe, I set out to do some scientific knocking and slinging. In fact, as I drove along, I developed the impulse to outfiddle Fidler and out-wince Winchell. Thus you can sense the largeness of my purpose.

Finally I arrived at 1455 Gordon Street and entered the portals of the Academy of Motion Picture Arts and Sciences.

So, figuratively, of course, I reached for my hammer and took a quick squint at the catalog to see whom should I take the first poke at. Nice-looking piece of printing, was my first impression of the guide book; big numbers just like on the prints and the photographers' names spelled right out loud with credits for the studios and production. Looks funny to see a still photographer getting top billing with the stars' names in teeny-weeny letters! A bit of bravery on the part of the Academy to try and sell catalogs, I thought, when all the dope is pasted on the photographs themselves!

To give the works a quick once-over seemed the thing to do in order to get a sort of perspective. Half an hour of this and I had the feeling that while there were no high spots, neither were there any chuck-holes. A good, level bunch of taking and picking, as much a credit almost to the judges as to the photographers. But I thought the Board much too big-hearted in hanging about twice as many prints as rather cramped quarters would accommodate.

It's my idea that an exhibition piece needs what we call "carrying quality." There's a whole lot of difference between the effect of a shot seen at arm's length and the same one viewed from across the room. Therefore simplicity is the thing.

On the other hand, I realize that most production stills necessarily contain a mass of detail essential to the story that cannot be rubbed out just to make the shot "arty." Cliff Maupin gets pretty close to my tastes along this line of reasoning with his backstage shot of Alice Faye as "Lillian Russell."

Before I got down to looking at the prize winners, I thought, "Here's my chance to conk the judges with my little hammer!" But to my amazement I had no trouble in perfect agreement with their award to Emmet Schoenbaum for his portrait of John Carradine. And I would have been glad if he'd gotten something for his "Man in the Moon" with Charley Grapewin making some lunar observations through a ventilator of the "little house."

I could easily have gotten into a tangle with the committee on classifications. John Ellis' "Assassination Scene" is listed as a posed production shot and has about as much action as I've ever seen. Number 269, by Eric Carpenter, is called an action portrait and shows Judy Garland comfortably resting in a lawn chair! Number 256, by Hal McAlpine, has a nice lot of swing, pleasing decorative quality which Miss Virginia Dale couldn't have spoiled if she'd tried. She's carrying too much shrubbery and underbrush in her arms, however, to give the shot desirable simplicity. James Manatt's action portrait of Igrid Bergman stopped at the proper instant, for had his shutter faltered I should have felt it my duty to march right over to the Hays' office!

Doesn't Ann Sheridan *own* any wardrobe? Some day I'm going to run across a picture of her all dressed up. Maybe I have and didn't recognize her. Schuyler Crail picks up where George Hurrell left off and does all right by her, too. If "gamma" is the Latin for "gams" I'm going to brush up on my mathematics and would like nothing better than to do it the way Gaston Longet goes about it in his arrangement of highly adequate hosiery filling from a scene in "No, No, Nanette." Anna Neagle doesn't take a thing away from the picture either.

Alexander Kahle's "Campaign Speech," with Orson Welles, has everything, but the print isn't being helped any by being mounted cock-eyed and all gowed up with penciled "art-work"(?) Lucille Ball is practically "gone with the wind" in Kahle's shots of her standing over an up-draft.

Gene Richee didn't miss a point in his portrait of Claudette Colbert. Entirely free from the conventions of theatrical photography, he has photographed Claudette just as she is and as we are accustomed to seeing her from the loges.

Lazlo Willinger could have had little trouble in merely photographing Rosalind Russell as she is. To a susceptible mind, she requires few of the artifices of the camera. Background's a bit too messed up, though, for simplicity.

The most compelling exhibits were in the color section. Though not in competition, they represented the only advance since the beginning of the cinematographic calendar.

Ray Jones' shots of Irene Dunn and Peggy Moran, while not offered in competition, ought to get more recognition than these few words of intended commendation. Over

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"Choir Scene" from "Our Town" by ROBERT COBURN, Lesser, UA., second place winner, best posed production still



"Moderne," Brenda Marshall by CHARLES SCOTT WELBOURNE, from "Footsteps in the Dark," Warner Bros. First prize, best fashion still.

on the other wall Net Scott gets less attention than he's entitled to with four 14 by 17's of Paulette Goddard. Perfect photography and color. As a dabbler in the medium, I was excited to the point of wondering why we don't see more of this work.

Scotty Welbourne solves a problem for me. I always thought defunct flash lamps were a total loss the moment they were popped. But now I know all one has to do is to get Rita Hayworth and sprinkle some of these G.E.'s about and there you have a picture. Scotty made nice work of it.

Maybe the Academicians will create another classification next year and give some of the color boys a break.

About this time my shoes were getting a bit hard on the botom, so I took a seat to redistribute the weight. John LeRoy Johnston must have had the same idea, for he edged in alongside and asked me how I liked the set-up. Well, I hadn't much use for my little hammer up to now and I thought I ought to give it a bit of a work-out. "It's a credit to all concerned," I was glad to say. "But . . ."

"Shoot," he says. "But what?"

Well, I thought, as I said a while back, there are too many prints shown in rather cramped quarters, arrangement of the screens a bit confusing and so near together that, if several folks are each trying to see the same print, there's a traffic jam.

Classifications always baffle me just as they have here. I don't see what difference it makes to the public or to the studio either, for that matter, whether a man makes a picture with a speed-gun, 8 by 10, or a brownie, provided he gets the stuff. Of course, I'm willing to defer to the fact



"Skiers on Mountain" from "The Mortal Storm" by MERRITT SIBBALD, Metro Goldwyn Mayer. First prize, best action production still.

that 8 by 10's are necessary in production work, but I'm speaking of exhibition material.

The front page of the catalog looks like the credit titles on a half a dozen super-specials. Too many judges. I cannot see how so many could possibly have gotten together on a single subject! A jury of *one* man would be ideal, except I'm willing to concede the likelihood that a terrible squawk would go up from all over. Not more than three would be entirely practical and they ought to be *photographers*, not executives from the several branches of the industry. These latter had their say when the pictures were first made.

Then I'd suggest that, during the year, the individuals have the privilege of saving out certain shots they think might be good exhibition stuff before it gets lost in the archives. He would then be able to have some jurisdiction in the matter of his particular tastes in cropping, printing and mounting. Too much of the art shown looks a bit factory made. In some instances, it's my guess that the chap who might have had some good stuff to show "don't work here any more."

Anyway, John, I do like the salon immensely and since it isn't damned with being an "art exhibit," it's entertaining. If it gets around, I'll bet next year it'll prove a sensation, especially in centers where the back-stage scene is still a novelty.

And if it doesn't wake up an interest among the still photographers and give them the itch to do better work and more of it, I'm sure there ought to be a few new names in next year's catalog.

Wonder where I laid my little hammer?



Portrait by Baby Sandy by ED ESTABROOK, Universal Studios. Second place winner (Certificate of Merit), best posed portrait study.

S. M. P. E. CONVENTION

ABSTRACTS OF PAPERS OF THE SPRING CONVENTION, ROCHESTER, N. Y., MAY 5-8, 1941

The Papers Committee submits for the consideration of the membership the following abstracts of papers to be presented at the Spring Convention. It is hoped that the publication of these abstracts will encourage attendance at the meeting and faciliate discussion. The papers presented at Conventions constitute the bulk of the material published in the Journal. The abstracts may therefore be used as convenient reference until the papers are published.

A. C. Downes, *Editorial Vice-President*
S. Harris, *Chairman, Papers Committee*
G. A. Chambers, *Chairman, West Coast Papers Committee*

P. Arnold
F. T. Bowditch
F. L. Eich
R. E. Farnham
C. Flannagan
E. W. Kellogg
P. J. Larsen
G. E. Matthews
W. H. Offenhauser
R. R. Scoville
S. P. Solow
W. V. Wolfe

Five New Models of 16-mm Sound Kodascopes; W. E. Merriman, *Eastman Kodak Co.*, Rochester, N. Y.

A new line of Eastman 16-mm sound projectors identified by the model numbers, F, FB, FB-25, FS-10, and FB-40, will be described. The picture mechanisms and sound-heads of all models are identical. The difference among the models lies in the finish, the carrying cases, the power output of the amplifier, and the speaker equipment. The first three models will operate on alternating or direct current; the last two are for 50-60-cycle duty. Some of the standard features of these projectors are a 750-watt projection lamp and a 2-inch projection lens of F/1.6 aperture. There is a focus adjustment on the scanning optics to permit satisfactory reproduction from either reversed negative or positive contact prints. A carefully designed rotary stabilizer is common to all models. A rotary snap switch, which turns on the pilot light, motor, and projection lamp in the proper sequence, is also standard equipment.

Air-Conditioning Safety Device for Theaters; E. R. Morin, *Connecticut State Police*, Hartford, Conn.

A new fire damper release and method of preventing smoke from being recirculated or pumped into a theater auditorium through the air-conditioning system in the absence of heat or flame has just been developed by the Motion Picture Division of the Connecticut State Police, and will be described in the paper.

Some Properties of Polished Glass Surfaces; F. Jones, *Bausch & Lomb Optical Co.*, Rochester, N. Y.

A discussion of work done at Mellon Institute as the Bausch & Lomb Fellow on the investigation of the durability of polished glass surfaces exposed to ordinary atmospheric attacks; efforts to perfect accelerated tests so as to permit rapid determination of the durability characteristics of different kinds of glass; the application of this phenomenon to increasing light transmission; and to the artificial stabilization of surfaces on glass normally not very durable.

Improvements in Methods of Surface Treatment of Lenses; W. C. Miller, *Hard Mechanical Laboratories*, Pasadena, Calif.

As early as 1892 it was known that the reflectivity of polished glass surfaces was reduced and the light transmission increased when a suitable thin film was present on the surface of the glass. Many efforts to produce such a thin film artificially met with only partial success. In the last five years two different methods were discovered which achieved the desired results. Only one of the processes, however, was satisfactory for commercial application. Great improvements have been made in the durability and weather resistance of the thin films deposited on the lens surfaces by this process. Lenses coated with these improved methods require no more careful handling than any good lens is entitled to, and fingerprints and dust can be removed without detrimental effects to the coating. The thin films can not be scratched with anything less hard than a metal point. By this process reflectivity can be reduced from 5 per cent for untreated polished surfaces to as low as 0.5 per cent for treated ones. Experiments show that even greater reductions are possible and should be available in the near future.

New and Old Aspects of the Origins of 96-Cycle Distortion; J. O. Baker, *RCA Manufacturing Co.*, Camden, N. J., and R. O. Drew, Indianapolis, Ind.

The work of previous investigations is reviewed and correlated with the results obtained in a comprehensive study of 96-cycle distortion due to the presence of sprocket-holes adjacent to the sound-track.

This distortion has been known for some time. Much improvement has been made by the adoption of the magnetic-drive recorder, the non-slip printer, and the rotary stabilizer sound-head for the purpose of overcoming the problem of slippage.

Recording of sound on doubly perforated film will introduce 96-cycle disturbances of both amplitude and frequency modulation because of the film flexure and possible variations of film speed at the sprocket-hole rate.

Processing of sound records on doubly perforated film will introduce a 96-cycle hum and amplitude modulation depending upon the processing technic.

Printing of sound records on doubly perforated film introduces 96-cycle hum and disturbances of both amplitude and frequency modulation, due to film flexure and variations of film speed at sprocket-hole rate.

Reproducing of sound records on doubly perforated film introduces 96-cycle disturbance because of film flexure.

The use of doubly perforated film for any one of the four steps of recording, printing, processing, or reproducing will result in a 96-cycle disturbance of the reproduced sound.

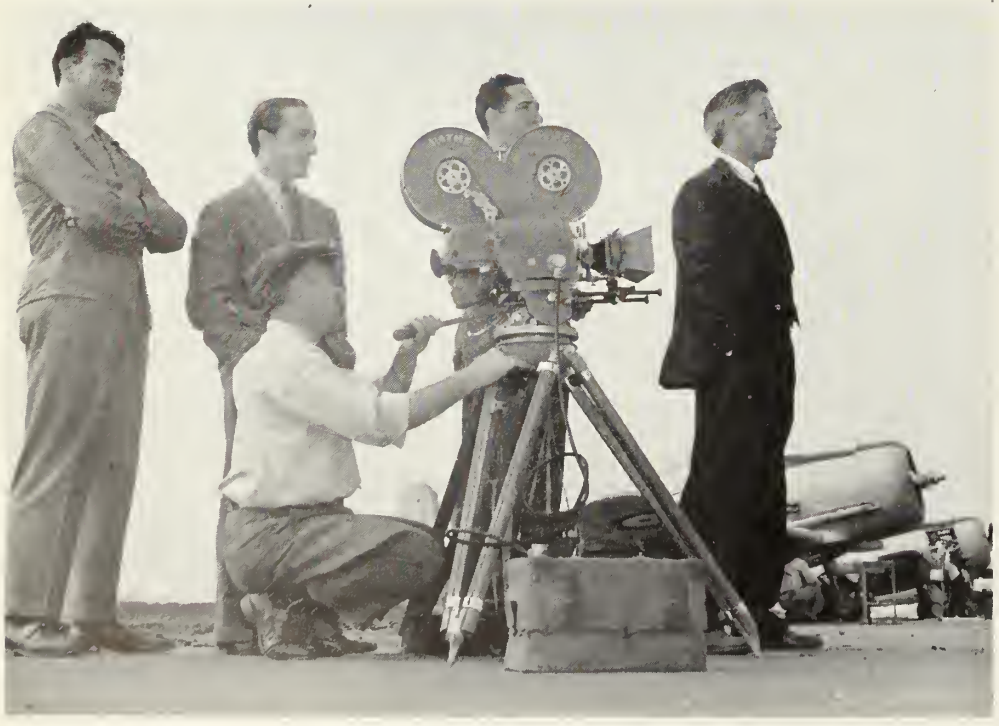
Since it has been proved that the presence of the sprocket-holes adjacent to the sound-track is the source of all 96-cycle distortion, and the omission of the sprocket holes entirely eliminates this distortion, it becomes obvious that singly perforated film should be used throughout all phases of sound recording and reproduction if complete freedom from 96-cycle distortion is to be obtained.

A substantial improvement can be realized if the singly perforated film is employed only for the original negative, master positive, and re-recorded negative, and doubly perforated film for the release prints.

The use of singly perforated film throughout all phases has a decided advantage of providing additional space, without affecting the picture dimensions for a double-width sound-track or two sound-tracks, one for control or other purposes.

An All-Purpose Sound-Track Printer; G. M. Best, *Warner Brothers-First National Studios*, Burbank, Calif.

When Warner Bros. Studio changed the type of recording from variable-density to ultraviolet variable-area several years ago, existing printers were unable to handle more than one type of printing on a production basis. Hence, certain printers had to be set aside for variable-density printing only, to take care of the sound-effects library; others for ultraviolet printing only; and one was segregated for white-light and blue-light printing of fine-grain duplicating negatives and positives. As all these printers were from twelve to seventeen years old, they were not capable of producing prints completely free from weave or slippage, so under the supervision of A. J. Tondreau, head of the camera and laboratory repair shop at the Studio, a completely new printer was designed and built to handle all sound-track printing, both for the studio and release printing.



Looking Things Over at North American Aviation Plant.

Left to right: Buzz Holland, head of Photographic Division; Lew Kerkes, electrician; Len Powers ("at ease" behind camera); Lester Schorr and Gus Peterson, President of Local 659, IATSE.

Incorporated in one printing head is a novel, non-slip film movement, a selection of filters for ultraviolet or fine-grain negative printing at the turning of a dial, accurate regulation of light over a scale nearly three times as broad as previous printers, and equipment for variable density printing. Negative and positive weave is limited to ∓0.001 inch, the negative setting being adjustable to take care of negative shrinkage. Operating at nearly twice the speed of previous printers, four of the new machines provide adequate service with ten companies shooting and three or more pictures in the dubbing and release stages.

Some Equipment Problems of the Direct 16-mm Producer; Loyd Thompson, *The Calvin Co.*, Kansas City, Mo.

The increased use of direct 16-mm. production for industrial and educational use has caused a need for more and better equipment. A great deal of the 16-mm equipment on the open market has been designed for amateur use. Most of this equipment gives perfectly satisfactory service even when used for industrial purposes. However, much of it could be redesigned and built better so that it would stand up under hard use and would also allow the user to work faster and easier. A limited survey was made among the 16-mm film producers to find what was most wanted in 16-mm equipment and film. Some suggestions are made for improvements in film stocks, cameras, and sound-recording and projection equipment. Improvements are also suggested for 16-mm. laboratory service.

Some Recent Advances in the Photographic Process; C. E. K. Mees, *Eastman Kodak Company*, Rochester, N. Y.

A popular discussion of recent advances in our knowledge of what happens when photographic materials are exposed and developed.

The Stereophonic Sound-Film System—General Principles; Harvey Fletcher and E. C. Wente, *Bell Telephone Laboratories*, New York, N. Y.

The general requirements are discussed for an ideal recording-reproducing system as determined by the characteristics of hearing of a typical group of persons listening in a typical concert hall or theater. Quantitative values are set down as ideal objectives. Although microphones, loud speakers, and amplifiers which had been developed for the stereophonic transmission system were available for meeting these objectives, no recording medium was known which would record the wide dynamic range of intensity levels which the objectives indicated was necessary. However, this wide intensity range objective was met by using a compandor in the electrical system. A general discussion is given of the reasons for choosing the particular compandor used, for using variable-area rather than variable-density on the recorded film, for using three instead of a greater or lesser number of channels. A general description of the stereophonic sound-film system is given, including the enhancement feature. This feature makes it possible to re-record from the original recording, at the same time making any desirable changes in the dynamic range or frequency response in each of the three channels.

Mechanical and Optical Equipment for the Stereophonic Sound-Film System; E. C. Wente, R. Biddulph, L. A. Elmer, and A. B. Anderson, *Bell Telephone Laboratories*, New York, N. Y.

The same mechanism is employed for propelling the film in both recording and reproducing. To permit recording of the longer orchestral selections without interruption, the machines are designed to handle film in 2,000-ft. lengths. Special features of the film-propulsion system for obtaining great uniformity of speed at the translation points are described. The three signal and one control-channel currents are recorded by means of light-valves of identical construction. All four tracks are exposed while the film is passing over a free-running supporting roller, mounted on the same shaft with a new type of internally damped impedance roller. In reproduction, each track is exposed through an objective of high aperture to light from an incandescent source. After passing through the film, the light from each track is carried by a glass rod to a photoelectric cell.

The Stereophonic Sound-Film System—Theory and Performance of Compandor Systems; Harvey Fletcher and W. B. Snow, *Bell Telephone Laboratories*, New York, N. Y.

The general theory of compandor systems is developed and shows that the intensity level of a group of signals can be compressed and then expanded without distorting the signals. It indicates the conditions necessary for obtaining this result. Various types of compandor systems ap-

(Continued on page 18)

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"ART" ON MOUNTAIN TOP

(Continued from page 5)

skiiers. Everywhere was virgin snow. Here was a chance to sketch patterns, completing the composition with effective designs written by the skiis of our experts. To get exactly the effect I wanted a sketch was made of each composition as seen in the finder. Then I'd sketch in the lines I wanted the skiiers to make on the slopes of virgin snow. They would pick out landmarks and soon the scene was completed. Almost every one was identical with the original sketch, plus the ACTION. We were struggling to obtain pictures in motion and the stuff I saw on the screen here was most gratifying considering the difficulties we had to get exactly what we wanted. Often the ideal set-up was just a few feet out over a cliff, or half down an alp, but the boys there were just as anxious as we were to get the best, so no job was too tough.

Great areas of white snow, splashed with brilliant sunshine, gave us color photographers an interesting problem. To aid in obtaining the utmost color without flaring the snow, I went so far as to use combinations of neutral density filters together with the polaroid which in addition to its other powers of cutting haze, darkening skies and cutting glare is a perfect neutral filter. The skiiers wore colorful suits and we wanted those colors, but we had to hold down the snow in order to expose for the suits. The combinations did well.

Fortunately I carry a wide variety of graduated neutral densities from clear to black and by jamming a collection of them from all sides and leaving the costumed areas clear, we captured all the color there was in the skii suits. Wish I had two of those gadgets Joe Walker invented that slide graduated neutral filters from both sides. I would have used one top and bottom and the other from the sides. Fortunately I had Harrison glass filters, which are flats, and no distortion appears even when four of them are shot through at one time.

Shooting the picture was absolutely *nothing;* my worries began when I thought of getting *down* that mountain on skiis. The boys packed the stuff on their backpacks and took off at breakneck speed into the snow depths below. I had visions of film, camera, lenses splattered against trees to the right and left! I stood at the summit watching them disappear down the mountain and no one fell. I felt better, but very lonely. Finally it dawned on me that I was alone up there and five miles of skiing down . . . for me to DO . . . before I could even find out if all was well.

Worry about the stuff soon made me desperate, so I shoved off, grasping frantically at all the bits of advice about skiis that I had picked up. Keep your knees together . . . lean forward . . . stem to slow-up . . . but I couldn't make a snow plow out of those skiis . . . at all . . . faster . . . faster . . . then . . . POW . . . I submerged. He's down; he's up; down . . . up; finally I didn't know whether I was climbing up or sliding down. Four hours later I reached bottom.

A hot bath, food, aboard the train we climbed, safe and partly sound; but the stuff was okay. Nothing wrecked but the cameraman, and the woods are full of them; you can even find pieces of one on the trees that marked my descent, not artistically, down that mountain. If the picture is not ART, no one can say I didn't try.

WHAT I THINK OF "CITIZEN KANE"

"Citizen Kane" as a whole is a noteworthy achievement in the cinema world and is recommended as a "must" picture on your list. Welles and his cast are more than competent; they are great performers and they should give us a continuance of pleasurable moments in future production.

The photography is strikingly real; it differs from everything that speaks of modern tradition and daringly resorts to something which seldom ever has been tried. It seems that the angle employed has a tendency of bringing the characters closer to the audience and makes the observer feel that he is participating in conversation and action taking place on the screen. Whether this is accomplished by devising low ceilings and shooting upwards or at times angling the camera so it photographs part of a man whose back is turned to the screen and full view of another who is speaking is a matter which the reviewer will not try to discuss. He merely cites the reaction, fiery and stimulating, which must be acknowledged as caused by something different than that which the average picture is approached from. Let it be said that the reviewer has not noticed this before, although it has happened in many other cases. Let it be said this is nothing new and has been done before. No matter what is said, the fact remains that there is something terribly exciting about the way the camera approached the subject in this picture and that is the story you will read when you comply with this "must" instruction.

Gregg Toland received photographic credit and Vern Walker is credited for special effects in photography.

—H. A.

A STUDY IN PUBLICITY OFF-STAGE

A previous article in International Photographer discussed candid photography in its various phases. The pictures which appear on pages 14 and 15 have a specific meaning to the average layman as well as to the magazine patron. They are not pictures: they are photographic stories so constructed as to satisfy a public curiosity and at the same time prove to the person so interested in motion picture performance that the players respond to the normal, natural reactions as do the men and women in average life. At the same time it permits one to explore a careful study of life on location, the hardships and trials of trying to work under strained conditions when the players must accustom themselves to outdoor life whether or not it be pleasant.

In spite of it all, these pictures bring before us the characters in their most natural poses. At no time is Loretta Young strained or camera shy. In fact, she responds in a most unreserved manner, throwing her emotions aside, expressing her instantaneous reaction to the immediate situation.

Under normal worldly conditions the photographer can get along from day to day without fear of criticism or worry that he is not creating enough interest in pictures he is shooting, but with the war removing everything from the front page and war pictures holding the interest of all readers, the photographer today is faced with the formidable problem of preserving the interest of readers with type of pictures, not so much as to the type of photography, which will cause one to peruse the pictures a second time.

Thus photographs must speak for themselves and the accompanying words and stories be of such secondary importance that they are relatively unimportant.

It is the writer's conviction that the photographer on "The Lady from Cheyenne" has given us the very thing we have discussed here. Had there been gun play, tank movement or cavalry charging we could then say it was comparable to any war picture; but the conditions being entirely different we say that it has action, movement, realism and all other attributes to hold the interest of the reader as compared to other pictures of everyday events which are able to create interest merely because they are dealing with the subject continually on everyone's mind today.

—H. A.

Naval Commander to Supervise Movie

Commander Clyde Lovelace, U.S.N., has arrived from the San Diego Naval base to serve as technical assistant to Director Arthur Lubin during the filming of Universal's "Abbott and Costello in the Navy."

Commander Lovelace is said to have supervised the reconditioning at San Diego of many of the destroyers turned over to Great Britain by Uncle Sam.













Stills by Eddie Jones, Roman Fleulich and Ray Jones (portraits).

The time, about 1870; the place, frontier Wyoming. Top, reading, left to right: Steve (Robert Preston) and Jim Cork (Edward Arnold) start the crooked land auction; Annie (Loretta Young) the naive school teacher from Philadelphia to whom Steve in a burst of gallantry sells one of the choice lots; bullets tossed into the saloon stove frighten two of the bad men; dancing with Samuel S. Hinds as "Governor Howard," Annie greets Steve, who scarcely recognizes her as the dowdy school teacher; henchmen of Cork waylay Annie's train to capture her; Mrs. McGuiness (Jessie Ralph), who has launched Annie in her plan to rid Laraville of the Jim Cork gang, triumphantly joins Annie in leading the women's parade, while Jim Cork and Steve lead the men.



Loretta Young, who stars in the title role of Frank Lloyd's new frontier comedy, "The Lady From Cheyenne," chats with Alma Lloyd, daughter of the movie-maker.



Loretta Young and Robert Preston on location near Mojave, California, where much of the picture was shot.



The most photographed street in the world, Universal's "Western Street," serves as a Wyoming frontier town.



Producer Frank Lloyd lines up a big location scene. He is speaking to several hundred extras while the giant camera boom swings into line for the "shot."



Hundreds of Hollywood extra players are served a hot lunch in the middle of the Mojave desert of California.

Stills by Eddie Jones, Roman Freulich and Ray Jones (portraits)



Frank Lloyd talks things over with Loretta Young and Robert Preston, the stars in his latest picture.



"Get a grip like this"—Frank Lloyd demonstrates on Robert Preston a wrestling hold he wants blonde Sue Moore to clamp on the leading man.



Hundreds of atmosphere players and stars get together for a marching scene. Man with mike boom in foreground.



"Come and get it!" Food in special trucks was dispatched daily from Hollywood, more than 100 miles, to the location.



Relaxing between "takes" of outwitting a gang of crooked politicians, Loretta Young practices the age old feat of walking on a rail.

up in the air

All names used in this story are purely fictitious.

By Burr McGregor

The *S. S.* Alexander has just passed through the Golden Gate, outward bound, and turned south with San Pedro listed for the next port.

We were up forward on the main deck, smoking and relaxing from a hard spell of work along the Embarcadero of San Francisco, where we had photographed scenes for the "She Wolf."

When I say "We," I am referring to the camera crew of the Great Feature Play Corporation, of Hollywood.

As the ship passed through the "Gate," the big China Clipper, inbound from the Orient, passed close overhead, and that lead the conversation into the events of the Air Races at Ceveland, Ohio, and the death of "Bud" Johnson, formally known as Lieut. Johnson.

My assistant, Bill Stevens, asked if it was the same Johnson that helped me with the scenes used in "The Great Race," and that brought forth a new recital of the story.

It was, perhaps, one of the most outstanding experiences in my career of dangerous situations, an experience in which impulses acted automatically for self-preservation with a realization of the danger into which I had been thrown. Not until it was all over did I realize the consequences I would have suffered had I lost my ability to think — automatically, instantly.

Looking back twenty years, when auto racing with big heavy cars, traveling around bowl shaped wooden tracks was in vogue, I was faced with a moment for action that packed a lifetime in ahout twenty seconds of chill-weakening thrill.

I was a cameraman in production at the time. for one of the major producers, engaged in photographing a thrilling race picture featuring a prominent male star of that day.

A sequence had been written in that required a scene showing a group of racers huddled together, fighting for place, while running at top speed around the track.

A popular track, situated a short distance west of Hollywood, was pulling off the last race of the season, a sort of handicap, with entries of many well known drivers.

I suggested to the director that I photograph the entire race from an airplane, using long focus lenses that would bring the action close up. Well, I had asked for something and—got the assignment. I was given a free hand to make all the arrangements I thought necessary to carry through successfully.

Lieut. "Bud" Johnson, a fine fellow, flat nosed, gray-blue sharp eyes and scarred from several encounters and crack-ups while flying in France, was idling around the lot trying to work up a job of stunt flying; he was called into conference with the director while we went into the details of the story requiring the stunt we wanted to get.

It was arranged that Johnson would scout around and find a plane; "crate," as he called it, that could be maneuvered easily into the positions required: zooming, fast climbing and steep banking.

The morning of the day of the race, Johnson called me on the phone and said he had secured a pretty good "crate" but could get no parachutes. I said I was willing to take a chance if he was as I wouldn't know what to do with a parachute if I had one. "O. K.." he said. "meet me at the flying field right after lunch and we'll rigg'er up."

With my assistant, I drove to the field and unloaded the equipment and waited for Johnson. Half an hour later he came zooming toward us out of the sky in a stiff dive and then leveled out, roaring over our heads, or what would have been our heads had we not flattened out on the ground, then he made a fast climb, circled around and landed. He seemed well satisfied that the "crate" would carry us around and get what we wanted; I took his word for it since he would be at the controls while I did the photographing.

In those days we did not have the elaborate equipment for working in the air that has since been developed, but after a lot of fussing we managed to strap and secure a tripod in the rear cockpit that would hold the heavy camera secure in any position for working over the side and pointing down.

All set to go, we had to work out signals that would enable me to tell him what positions to get into.

First, we decided to do our general work from an altitude between five and a thousand feet. but we would go up four thousand feet for a nice full view of the track and the crowd.

"What kind of signals do you want to use when we get up," I asked.

"Well, I'll tell ya," he said, and went into a moment of thought. "Ya see, the sky's goin' to be crowded t'day and I'll have to keep a pretty sharp lookout for those amateurs floatin' around: can't never guess how they're goin' t'move an' I don't want 'em too close."

"No," I said, "we want racing automobiles in this picture."

"Well, it's like this," he said. "You're in back'v me an' I won't have time t'look 'round, an'f I did we couldn't hear nothin' through the helmets. so I'll tell ya what ya do.

"When we get up high, I'll level out so ya can spot around an' see what ya wanna get. If ya wanna go left, tap me on the left shoulder: right, on the right shoulder: If ya wanna zoom down, tap me on the bean: if ya wanna level out. knuckle me on the back between the shoulder blades, —get me?"

"I get it," I said, "Let's go!"

I pulled on the overalls and clapped on the helmet and goggles and climhed into my seat along side the camera.

Lieut. Johnson looked me over and said, "Now listen, kid; keep your feet away from those control cables an keep your seat strap tight; no tellin' what kind'v a stunt I might have ta dive into up there, an' quick-like, t'keep away from those monkeys with the fancy crates; mind now, keep that strap tight or ya might bail outa here an' I won't have time t'get under ya!"

"Don't worry," I said, "I'll keep it tight: you just keep lookin' ahead till I rap you some place!"

He climhed into his seat and signaled the ground man to turn over the propeller, threw in the switch and yelled "Contact."

With the motor warmed up it only took a few turns to get into action. A blast from the exhaust, and then a smooth rhythm of flowing power as the motor was throttled down told us it was hitting smooth and even.

Heading into the wind we raced down the field and lifted off the ground and climbed in circles till we were up to altitude and sailed over toward the high hills north of Hollywood and a position north of the track.

Several flyers came in close to see what we were doing, and I thought, "The same old nuisance. All you have to do to draw a crowd is to set up a motion picture camera, even in the desert. and folks'll gather 'round and ask if you're making' motion pictures!" Here they were doing it up here in the air. Lieut. Johnson signalled to keep off for maneuvers and they sailed away. I reached over and touched him on the left shoulder, he looked around and I pointed toward the track.

The atmosphere was clear and crisp, visibility perfect, with light and shadow conditions just right. In a short few moments the track spread out below us with thousands of race fans gathered and more coming from all directions along every road; it was a beautiful sight. Some of the racing cars were warming up, spinning around the track; they looked like the little toys of racers displayed in windows before Christmas. I ground off about

a hundred feet of film and then signaled to go down and level out over the track.

As we reached the five hundred foot level we heard a gun crack, looking down we saw the race start. A wonderful view! Twelve cars, four abreast in three lines. What a roaring bunch as they broke away from the line, and what a jockeying sight! I swung in a six inch lense and went after it. Johnson held the ship beautifully while I ground out several hundred feet of film —just what we wanted!

I was using small magazines to cut down wind pressure and now had to reload. While I did this Lieut. Johnson climbed up to altitude again and flew around till I was ready.

All set, I looked at the track and saw that the cars were now pretty well strung out, then all of a sudden one of the cars, pretty well back, shot out and commenced to pass cars like they were standing still till it reached the three leaders, and then a battle commenced that kept him in a pocket; what a moment!

I reached over and touched Johnson on the helmet and pointed out what I wanted to get. He nodded—and—we dropped—and—my stomach bounced up in my throat —I thought. At four hundred feet he leveled out with my game right below me! Was I excited?

I was so excited I forgot where I was. I was so cramped for room that I unstrapped my belt and proceeded to crawl out on the fuselage so I could get the lens aimed at the proper angle; in doing so, my left foot touched Johnson's right shoulder, and as arranged, he thought I wanted him to bank around to the right—and he went into a steep bank—and there was I—ready to slip off the fuselage to drop on the track below. As I started, I made a wild grab for the camera and reached it with both hands and welded them to it in a grasp that couldn't break while I hung on the outside of the fuselage fluttering like a piece of cloth in the wind! Lucky that camera had been fastened solid!

By the time Lieut. Johnson wondered why I didn't signal to straighten out, he looked around. Through his goggles I could see his eyes grow wide, like small saucers, and then we bounced into an air-pocket that almost jerked my arms out as the plane hit it. I just hoped I wouldn't fall on the track and get run over by one of the cars. Silly, what thoughts we get in the midst of a dangerous situation.

Johnson banked sharp to the left, throwing me against the fuselage, giving me a chance to crawl closer to the rim of the cockpit, but I hesitated to dive in for fear I'd get tangled in the controls, so I just laid there on top of the fuselage and hung on while he leveled out for the field and landed and came to a stop with the motor shut off. I wish he had kept the motor running so I couldn't have heard his vocabulary—it was certainly choice and original, but I couldn't answer; now that it was all over I was as limp as a rag as my grasp melted off the camera.

I missed the crack-up on the track, but prevented another by hanging on.



NORTHWEST NEWSREELER ON THE JOB

By Charles R. Perryman

After covering the dog races at Ashton, Idaho, the New York office sent me on to Jackson Hole, Wyoming, to get some pictures of the elk herds which are fed each winter by the United States Government.

Over 12,000 of these animals were fed last winter by the Department of the Interior. When the winters are severe the elk come down to these feeding grounds in great numbers and a good many thousands of tons of alfalfa is required. At feeding time, stretched across the valley as far as one could see, was a vast sea of heads, ears and antlers. The feeding strip is several miles long.

The hay is pitched off a moving horse-drawn sleigh. The elk are perfectly quiet and contented as long as the sleigh keeps moving, but as soon as it stops and a person gets off and starts to walk the elk scatter in panic. They seem to think that a walking man is their enemy, but that a horse and sleigh can be trusted.

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S. M. P. E.

(Continued from page 11)

plicable to single and multiple-channel systems, both with and without pilot control, are discussed. Particular emphasis is given to copper oxide-varistor types of compressors and expandors, and it is shown how they can be used with vacuum tube-type rectifiers to obtain very desirable characteristics. An expandor has been produced having a remarkable property—it introduces a gain into the signal channel which is equal to the increase of the current in the pilot channel. This linear relationship holds through the wide intensity range of about 50 db. In other words, if the electrical power in the pilot channel is increased tenfold, the signal leaving the expandor is increased tenfold. The current in the pilot channel may be increased as much as 300 times and still the signal current going from the expandor will be increased by the same factor. Methods have been devised for gradually balancing out from the signal channels any distortion effects coming from the pilot channels.

The Stereophonic Sound-Film System—Pre- and Post-Equalization of Compandor Systems; J. C. Steinberg, *Bell Telephone Laboratories*, New York, N. Y.

In order best to fit the volume range of the program material into the volume range available in sound-film, it is generally advantageous to pre-equalize the program material before recording, and to compensate for the equalization by means of a complementary post-equalizer on reproduction. The type and amount of pre-equalization depends upon the properties of hearing and on the characteristics of the program material and the film noise. This paper discusses the relations between these quantities for systems using compandors, where the film noise varies up and down in level as the compandor gains vary. Ideally, different types of pre-equalization are needed for different types of program material, and a compromise must be made if a single type is to be used. The considerations leading to the choice of the pre-equalization used in the stereophonic recording and reproducing system are discussed.

Electrical Equipment for the Stereophonic Sound-Film System; W. B. Snow and A. R. Soffel, *Bell Telephone Laboratories*, New York, N. Y.

An electrical system is described which permits the use of sound-film, with its limited signal-to-noise ratio, as a recording medium for wide-range stereophonic reproduction of symphonic music. Noise reduction is accomplished both by pre-equalization, rising to 18 db above 8,000 cycles, and by automatic signal compression and expansion of 30 db.

To secure maximum suppression of noise and freedom from distortion, a pilot-operated, flat-top compandor system was selected. In each channel low-level signals are recorded on a separate track with constant gain 30 db above normal, which places them above the film noise. Higher-level signals cause automatic gain reductions and are recorded at substantially full modulation. These signals vary the intensity of a pilot tone, which in turn controls the compressor gain. There is a pilot frequency for each of the three channels, and the three are combined and recorded together on the fourth film-track. During reproduction they are separated by filters, and operate expandors which restore the signals to their original forms but reduce the noise to inaudible levels.

The compressor and expandor gains are made proportional to pilot level in db, and the expandor range over which this relation holds is 45 db. Therefore a 15-db variation in average pilot level during reproduction causes a corresponding average level change but no distortion. This is used to allow expansion of the original signal intensity range during recording or re-recording by simple gain controls in the pilot circuits.

This paper describes a light-valve incorporating developed to accomplish these results, and discusses the frequency, load, distortion, noise, and dynamic characteristics of both constant and variable-gain elements. Also included are considerations of microphone and loud speaker arrangement and equalization to secure high fidelity of reproduction.

A Light-Valve for the Stereophonic Sound-Film System; E. C. Wente, R. Biddulph, *Bell Telephone Laboratories*, New York, N. Y.

This paper describes a lightvalve incorporating large electromagnetic damping and operating directly through the ribbon resonance region. Resonance response is only 5 db above low-frequency response and so permits easy equalization. A suitable equalizer provides uniform string displacement per unit driving voltage over the band 30-14,000 cycles with very nearly constant phase-shift per cycle. Problems of structure and size have furnished a mechanical design having several interesting features, among which are mechanical robustness, protection against dirt and moisture, built-in ribbon and optical adjustments, and an optical system integral with the valve structure, thus permitting rapid replacement of valves in the recording machine. This unit has proved a rugged, stable, light-modulator especially free from intermodulation products.

Internally Damped Rollers; E. C. Wente and A. H. Muller, *Bell Telephone Laboratories*, New York, N. Y.

Special damping rollers, capable of damping oscillations of rotating shafts without adding a steady load, were first devised by Prof. H. A. Rowland. These rollers had either an annular channel along the periphery filled with a liquid, or a wheel mounted loosely on a shaft co-axially fixed in an outer shell, the interspace being filled with a liquid. The theory of the action of such rollers in reducing fluctuations in the speed of rotation caused by disturbances from either the load or the driving side is developed and the results are illustrated by graphs. A new form of roller is described in which liquid filling an annular channel within the shell of the roller is coupled to the shell by a mechanical resistance.

A Non-Cinching Film Rewind Machine; L. A. Elmer, *Bell Telephone Laboratories*, New York, N. Y.

Cinching, or the sliding between layers of film within a reel, produces scratches and surface abrasions which increase the film noise level. Cinching is more likely to occur in rewinding than anywhere else in the normal usage of sound-film. At the beginning of rewinding, when the supply reel is full and the take-up reel is empty, a small amount of torque is needed for rotating the take-up reel. Under this condition the film will be wound rather loosely. When the supply reel is nearly empty, relatively high film tension is required to produce a given torque on the supply reel. The torque to be applied to the take-up reel will then be high, on account of both the high film tension and the large radius arm of the film spiral on the reel. This high torque is almost certain to cause cinching in the loosely wound bottom of the reel. The conditions to be satisfied, if cinching is to be avoided, are analyzed. A power-driven rewind is described which meets these requirements. The film tension is controlled by the weight of the film on the supply reel at all times during the rewind.

The Subjective Sharpness of Simulated Television Images; M. W. Baldwin, Jr., *Bell Telephone Laboratories*, New York, N. Y.

Small-size motion pictures, projected out of focus in simulation of the images reproduced by home television receivers, are used in a statistical study of the appreciation of sharpness. Sharpness, in the subjective sense, is found to increase more and more slowly as the physical resolution of the image is increased. Images of present television grade are shown to be within a region of diminishing return with respect to resolution. Equality of horizontal and vertical resolutions is found to be a very uncritical requirement on the sharpness of an image, especially of a fairly sharp one.

Development and Current Uses of the Acoustic Envelope; H. Burris-Meyer, *Stevens Institute of Technology*, Hoboken, N. J.

The acoustic envelope was developed in August of last year for Paul Robeson. Its purpose was to produce on the concert stage a zone in which acoustic conditions would approximate those of a small, highly reverberant studio. Such conditions were considered desirable since in them the artist hears himself easily and makes no unusual effort to project. The lack of such conditions, usually the case in the concert hall, may lead to tension and the technical faults incident thereto.

The technic consists in reproducing in the restricted zone the significant harmonics of the voice or instrument. The area within which the harmonics are audible must be limited since, for concert use, it is generally requisite that the audience hear nothing emanating from an electronic device. The technic has been employed by Mr. Robeson in all his concerts this season, in halls of widely varying acoustic characteristics, accompanied by piano and by full symphony orchestra. It has also been employed experimentally with full orchestra and settings on the stage of the Metropolitan Opera House; for a violin solist with piano accompaniment; and for choruses of over one hundred voices. It can be used without affecting radio pick-up.

Notes on the Mechanism of Disk Recording and Playback; O. Kornei, *The Brush Development Company*, Cleveland, Ohio.

A theory is developed to explain the well-known amplitude losses, in particular of the upper frequency range, occurring in the transcription of lateral-cut sound recordings. These losses may be attributed to two different causes, one based upon the recording, and the other upon the playback process.

The recording loss is due to the effect of the mechanical load imposed by the record material upon the cutting stylus. The influence of this cutting load upon the cutter performance is discussed briefly, the experimental determination of the load is described, and an empirical law for it is established.

The playback, or translation loss, is caused by the elastic deformation of the sound groove under the influence of the static and dynamic pick-up stylus forces. The resulting deviation of the stylus excursion from the actually recorded value is, according to the theory, equal to the difference between the lateral components of the elastic deformations at the convex wall and the concave wall of the record groove and can be calculated. The playback loss may be positive, zero, or even negative, depending upon the conditions. The theory is set forth, its limitations and accuracy are discussed, and experiments for its verification are described. Calculated curves are shown for the translation losses to be expected under various conditions.

Certain general conclusions are derived with a particular view to proposed construction principles for pick-ups with reduced translation loss.

In contradistinction to an ideal pick-up with infinitely small vertical force and stylus impedance, the conditions in a practical pick-up with finite vertical force are found to call for a certain definite stylus mass and a low resonance frequency in order to counteract the playback loss effectively. The necessary stylus mass is found to increase with the vertical pick-up force and stylus radius and to decrease with the record velocity.

It is shown that in systems with constant record groove velocity, perfect elimination of the translation loss is possible. In other systems, the loss can not be avoided completely but may be reduced, and the absolute level of the high-frequency reproduction may be raised.

Analytic Treatment of Tracking Error and

Notes on Optimal Pick-Up Design; H. G. Baerwald, *Brush Development Co.*, Cleveland, Ohio.

A complete analysis is given of a class of distortions arising in the reproduction of lateral-cut disk recordings. These are due to the varying angular deviation between the direction of the pivotal axis of the pick-up stylus and the groove tangent, commonly referred to as "tracking error."

As long as the overall distortion present in the reproduction is moderate, the system is "almost linear," and it is permissible to superpose the different components of distortion. This permits separate treatment of the tracking error distortions.

In the simple case of a sinusoidal signal, the complete Fourier spectrum of the pick-up signal is obtained. For general signals, an explicit analytical expansion is obtained for the picked-up signal.

The kinematical effect of the tracking error is an alternating advance and delay of the picked-up signal with respect to the recorded one. The harmonic distortions may thus be characterized as side-bands of phase modulation of the signal by itself. Compared with the ordinary type of non-linear distortion as, *e. g.*, met in tubes, which can be correspondingly characterized as amplified auto-modulation, the spectral distribution of the tracking error distortions is different by emphasis on the higher frequency components. For the second-order distortion, which is the prevalent type, this emphasis is proportional to frequency.

The analysis shows that the distortions due to tracking error are considerably greater than commonly assumed, regarding both their absolute and their nuisance value. Some values given in the literature are more than 50 per cent too small, due to the omission of rigorous procedure. The recording characteristic does not affect the relation between ordinary type and tracking distortions. The distortion is given approximately by the weighted tracking error which is inversely proportional to the grove radius, and is referred to the mean groove radius of the record.

The pick-up design should reduce the weighted tracking error as much as possible. The optimal design is uniquely determined as soon as the type of approximation is prescribed. It is argued that the Tschebychew approximation, which is commonly used in the design of electric wave-filters, is also adequate for the present case. For pick-ups without offset angle, only second-order approximation is possible, while with the right value of offset angle, third order approximation becomes possible. In the first case, sufficiently small values of distortion can barely be obtained with conventional arm lengths, and in order to avoid unnecessary distortions, the pick-up should be carefully mounted to obtain the optimal underhang. With an offset arm, distortion can easily be reduced to negligible magnitude. The right mounting is again fairly critical, while the optimal offset angle is not.

Simple design formulas of immediate applicability are developed covering the whole practical field of record sizes, speeds, and arm lengths, and the effect of deviations from the optimum designs is given. The magnitude of the centripetal effect in offset arms is also investigated.

Judith Anderson in "Lady Scarface"

Judith Anderson, whose brilliant work in "Rebecca" made her a nominee for the Academy Award to the best supporting actress of 1940, has been signed by RKO-Radio Pictures to play the title role in "Lady Scarface," which has just gone into production with Dennis O'Keefe and Frances Neal in the romantic leads. Cliff Reid is producing, with Frank Woodruff handling the megaphone.

I like them short

By Ralph Staub

SHORT SUBJECTS, long the stepchild of the motion picture industry, are coming into their own.

Not only are they getting unprecedented shooting schedules, player value and story consideration, but ace cinematographers are being assigned to short subject units to insure their continued excellence.

Here's a little inside information on the new set-up in the short subject field which should prove illuminating to those men and women whose time is engaged in making movies. When a man is allowed to spend 30 days making a one reel film where previously he had been compelled to get eight reels of film in the can in eight days or less, he is pretty happy to continue making shorts. That's why I like them short.

When I started making short subjects, almost a decade ago, I was a one-man operation, producer, director, cameraman, actor and often the off-stage voice which explained sequences in the picture.

Now, back with Columbia as producer of the Screen Snapshots, I have the pick of competent men and women in all specialized fields of movie-making to work with.

I left the Columbia short subject department to head a similar unit at Warner Brothers primarily because I had ambitions to become a feature picture director. That ambition was later realized, but sweating blood to get 8,000 or more feet of film completed in less than eight days doesn't come under the heading of recreation.

So I'm back at Columbia, with my own unit, most of the biggest stars in the business to work with and thirty days to make a picture which will run 10 minutes on the screen.

Naturally I like short subjects. They not only provided me with my start in this business, but they also taught me just about everything that can be learned about the motion picture industry.

It looks as if shorts are going to occupy an increasingly important place in the cinema sun. Not only are they testing grounds for stars, or experimental laboratories for technical improvements in all fields of the movie industry, but they are getting longer runs, increased attention from theater men.

The shorts are probably important to every specialized unit in a studio. They provide cameramen with opportunities of testing innovations; they give directors a chance to test new theories and the allow little known players an occasion for trying their wings.

I like them short.



Ralph Staub

"A Yank in the R.A.F."

Betty Grable, who has been climbing the movie ladder at a fast clip in recent months, will co-star with Tyrone Power in "A Yank in the R. A. F." which Darryl F. Zanuck will produce for 20th Century-Fox as one of his costliest films of the year.

Henry King will direct the film under the associate producership of Lou Edelman. The British Air Ministry, the R.A.F. and the British Air Commission are cooperating with Zanuck and some of the footage will be shot by R.A.F. pilots over Germany, France and England.

Gene Tierney Gets Title Role in "Belle Starr"

Gene Tierney, acclaimed by critics as one of Hollywood's most promising young actresses, was selected by Darryl F. Zanuck to play the title role in "Belle Starr," drama of the most colorful feminine outlaw in history, which 20th Century-Fox will film in Technicolor.

This culminates a search which has held back production for a year, during which forty-seven actresses were tested. Her selection follows close upon her fine performance as Ellie May in "Tobacco Road." The importance of "Belle Starr," in which she will share honors with Randolph Scott, is expected by the studio to raise her to stardom in her own right.

16mm. department

WHAT *SHOULDN'T* I DO?

Many amateurs with whom we have spoken have put the question. "What am I doing now that I shouldn't be doing?" and point to a strip of film that is a failure. Others, when pointed out that a failure is due to a violation of a fundamental rule of photography, counter with, "But I've seen pictures made by people who claimed they broke *every* rule in photography making that scene."

It may be true—in fact, it undoubtedly *is* true—that some very successful shots have been made by breaking some of the "rules" of photography. But "rules" must be broken by experts—professional *or* amateur—who know *how* to break them, *why* they are breaking them, and aren't breaking them just to be breaking a rule, but have some definite idea in mind that can be executed *only* by the breaking of a certain rule, or rules. It's like an ambulance racing down the street at a break-neck speed in an attempt to get an ailing patient to the hospital in time to help him. He is breaking the speed laws and many other driving laws for a definite reason, with an objective in mind. And yet, if we, as ordinary motorists, raced down the streets at that speed, we might find ourselves in the clutches of the law.

One of the most common mistakes encountered (unless you have a "coated" lens) is the one of shooting without a lens hood. This sounds trivial, and many people will point out that they've made some very good pictures without it. A lens hood is NOT trivial, as we will point out in a moment, and while some good pictures may have been made without it, these pictures could have had an improved clarity and definition had the hood been used. Even when there is no direct sunlight hitting the lens, the light hitting it from an open sky, or reflected from a glaring sidewalk or street will be accepted by the lens' outermost component and will be dispersed, reflected, and refracted within the components of the lens and will finally reach the film as an overall haze. The extent of the haze will depend on the strength of the light hitting the lens and the characteristics of that particular lens. Some lenses will offend more than others. If direct sunlight should hit the lens a "flare" will be set up in addition to this haze. We are all familiar with the haze that appears on an object if we attempt to look at it when the sunlight is hitting our eyes, even when the sun is at quite an angle. It is the same in a lens. Except that there are more elements in a camera lens to aggravate the condition. This defect in lenses has been overcome by the coating recently developed for that express purpose, but unless your lens *is* coated a lens hood is a MUST. And even with the coating, the lens hood is still desirable.

Another common fault amateurs are guilty of so frequently is panning too fast. We probably should have even said just panning. To begin with, the less panning in a scene, the better. Panning should be used ONLY when absolutely necessary, such as when following action. A landscape should never be panned: it should be broken up into individual scenes. If, for any reason, it is panned, it should be done *slowly*. And *smoothly*. In panning rapidly the individual frames are blurred, due to the movement of the camera not having been stopped by the shutter, and this blur will reproduce on the screen. When fast moving action is photographed, obviously the moving object followed will be sharp, and the fast moving background is blurred. But in this case the blur actually adds to the value of the scene because it gives the added feeling of speed.

While on the subject of pans, a word about lenses. A lens having a comparatively short focal length should be used. Lenses of long focal lengths take in only a small part of the landscape, and while the speed of the pan may be slow enough it will photograph much faster. This phenomenon can best be illustrated by an example of an automobile traveling, let us say, 70 miles an hour. If we are close to a certain lamp post, and watch it as it passes this lamp post, it will appear to be fairly flying by. If, however, we are watching a whole scene, a little distance from the road, and watch this car driving down the street, it will seem to be going rather slowly. Now, if the scene we are photographing is being made with a short focal length lens, we will have a wide-angle of acceptance and include a large part of the landscape, a situation comparable to the one where we were watching the automobile driving down a long stretch of street. If, however, and by leaving the camera in its same position, we place a long focal length lens on the camera, this lens having the narrow angle of acceptance characteristic of them, will merely see the lamp post we mentioned. And when the car goes by it will appear to be whizzing by. *ANY* movement is exaggerated by a telephoto (long focal length) lens, and panning with a lens of this type will exaggerate any minute inequalities of the movement of the camera and make it appear jerky. This would pass unnoticed, and be indiscernible when the shorter focal length lens is used.

True, there are times when a *very* fast pan across a certain scene, with the resultant blur that ensues, can be the height of a dramatic effect; or it can form an excellent means for a transitional effect, but this must be used knowingly, at the right time, and in the right place.

Another difficulty we have seen with amateur films is the lack of proper length of scenes. While we expect to go into this very important subject at a later date and devote the entire article to it, a few words here are in order.

Many enthusiasts will merely point a camera and shoot an undetermined amount of film, regardless of the subject. The result is that many scenes that should rate no more than five or six feet of 16 mm. footage are dragged out, and when they are viewed on the screen the interest will lag after this five or so feet has passed. When a succession of scenes of this nature are put into a picture, the result is a boring film. Yes, an editorial job can remedy the situation, but more frequently than not the entire footage is included in the finished picture. True, they might hold a certain fascination for us because they represent a record of something that might be of great personal interest. In which case the unnecessary footage is quite justified—*provided we keep that film for our own personal purpose.* But as a picture, something we can show to others and keep their interest, it will be a failure.

On the other hand many an abortive shot is the result of just shooting a few feet, either to conserve film, or because the importance of the scene and the interest it could hold has not been given due consideration. When scenes of this nature are put together in a finished film the result is a meaningless hodge-podge that becomes so confusing that interest lags after the first few minutes of running.

And, in closing, another important thing that shouldn't be done: *Don't* shoot with the camera in the hands, unless a tripod is entirely impractical. And when this is the case don't use a long focal length lens, for reasons already mentioned. The key-note of modern cinematography in all of its phases is *smoothness.* And shooting without a tripod is not conducive to the achievement of this goal.

Light-Plane Engine Manufacturer Sponsors Aviation Photo Contest

That the fast-growing aviation industry recognizes the wide-spread interest in amateur photography is indicated in a snapshot contest conducted each month by "The Lycoming Star," monthly publication of the Lycoming Division of Aviation Manufacturing Corporation, manufacturers of aircraft engines and propellers, in Williamsport, Pennsylvania.

The contest is open to all readers of "The Lycoming Star," whether or not they are affiliated with aviation. Every entrant is presented with a gold-plated Lycoming wing lapel emblem and the winner of each month's competition receives a check for $5.00. At the end of the year the monthly prize-winning snapshots will be judged for a grand prize of $25.00 which is to be awarded the photograph voted the best of the year.

A wide variety of aviation scenes are received each month, for the only stipulation

They Say---

By RELLA

● George Browne, President of the IATSE, sits with IA delegates and visiting IA brothers at all A. F. of L. Conventions, thus establishing a custom seldom followed by any IA presidents.

● Hal Mohr back at General Service, this time with Edward Small Productions, and of course his good man Friday, Len Powers, will be with him.

● The independent field is coming to life.

● The unusual amount of pictures being photographed in Technicolor at the present time point to the fact that color is on the march.

● Charles Van Enger working at Universal, where it appears he has a permanent berth.

● Harry Neumann moving from Monogram to Republic, with Mack Stengler covering for him at Monogram.

● Marcel Grand doing very nicely after an appendectomy.

● Harry Jackson, first: Henry Imus and Henry Kruse, assistants, off to Havana, Cuba, for backgrounds for Twentieth Century Fox.

● Leon Shamroy resting after completing "Miami" for Twentieth Century Fox. Shamroy has been going at a furious pace. Collaborating with him on "Miami" was genial Allen Davey.

● James Manatt finally got away to Ocala, Florida, where he will shoot stills on the MGM production, "Yearling."

● Many of the members of Local 659 have received their photographic rating from the United States Civil Service Commission. It seems that 659 passing at one hundred per cent rate so far.

● George Krainukov, who has been a newsreel cameraman in the Orient for many years and now is visiting in this country, tells the wierdest stories of the sense of honor of Mongolian bandits. For instance, one time when he was kidnapped, instead of taking all his money away from him, they bargained with him as to how much he should pay, and when the sum finally was agreed upon they allowed him to pay the ransom fee set and then depart.

● Irby Koverman covering a Fox Movietone for Al Brick, whose sudden departure to parts unknown still remains a mystery.

● Mervin Freeman making shorts for Pete Smith, with Marge Freeman, his charming wife, receiving credit as co-director.

● Mr. and Mrs. Sam Rosen expecting a blessed event.

● Special effects in "Citizen Kane" recommended for some kind of special award.

● Duke Green hunting locations in the Ozark Mountains for Twentieth Century Fox Productions.

● Bud Fisher, now with Sersen's Department at 20th Century-Fox Studio, and who was formerly head of the Camera Department at that studio, managed the 20th Century basketball team which won the A.A.U. national championship for 1941.

● Roy Hunt, First Cameraman at R.K.O. and now photographing a parachute picture, was a photographer in the British Army under the Department of the Ministry of Information in World War No. 1.

● Harold Smith, Business Representative, Local 695, probably is boasting that he is the father of a draftee for the year 1965.

● Larry Kairns, assistant cameraman, RKO, is father of a seven pound nine ounce boy.

made in the contest is that entries in some way convey the thought of "power by Lycoming."

Judges in "The Lycoming Star" Snapshot Contest are Frank J. Gilloon, in charge of World Wide Photos, New York Times, Cavio F. Sileo, head of International News Photos and Stanley A. Hedberg, Director of Public Relations of the Aviation Manufacturing Corporation and former news photo editor of Associated Press Photo Service.

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TRADEWINDS

Graflex Opens West Coast Office

Increased demands for Graflex-made photographic products on the west coast have resulted in the establishment of the Western Division of The Folmer Graflex Corporation. Located at 3045 Wilshire Boulevard, Los Angeles, the new division will serve Graflex dealers in California, Oregon, Washington, Idaho, Montana, Utah, Nevada, Wyoming, Colorado, Arizona, New Mexico, and El Paso County in Texas.

The Graflex Western Division is housed in a beautifully designed, modern building in the heart of one of Los Angeles' finest shopping districts. The main floor of the new Graflex headquarters is devoted to display, stock and shipping rooms. The offices for the Western Division are located on a mezzanine floor. The second floor is devoted entirely to service, mechanical and repair departments.

In charge of the Graflex Western Division will be Robert G. Weber, Western Sales Manager who is already well known to Graflex dealers on the coast. John E. Butler, Controller is in charge of the offices, and Irving Jacobson is Service Manager.

The Folmer Graflex Corporation cordially invites all its friends to visit its Pacific Coast home in Los Angeles.

Wabash Lamps Dry Negatives by Infra-red

A new way of speed drying negatives with infra-red heat energy is provided by the new "sealed-silver" heat lamp put out by the Wabash Photolamp Corporation, Brooklyn, N. Y. The lamp, which transmits heat by radiation of infra-red rays, has its own built-in reflecting unit in the form of a solid pure silver lining sealed inside the bulb. This permits concentration of its radiant heat energy exactly where wanted and eliminates the need for a separate reflector.

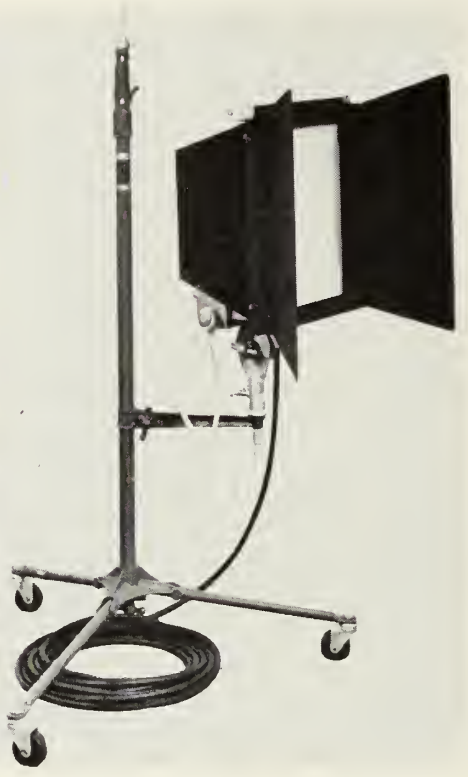
The infra-red heat radiations the lamp develops have uncanny penetrating ability. When directed at a wet negative, they penetrate through to the base of the film and start the drying process from *within*, thus cutting down drying time to a mere fraction of the former time.

In use, the wet negative is suspended between two Birdseye heat lamps placed about two feet apart. An electric fan is then placed behind the negative to send a flow of air across the path o f the rays on each side of the film. With this set-up, the film will be bone-dry in from 1½ to 2 minutes.

Old negatives that have been ruined by watermarks caused by improper drying can be restored by resoaking them for about 30 minutes in a suitable "wetting" solution, rinsing them in water, and then drying with radiant heat lamps. The lamps can also be used in the same manner for drying photographic prints, and in many commercial applications such as for drying photographic solutions painted on glass. During the hot summer months especially, when solutions practically will not dry at all unless in an air-conditioned room, infra-red lamps do the work in a few minutes.

In all, three new Birdseye infra-red lamps are announced. Two are clear, for use with standard reflectors, but the third is the sealed-silver type. All are guaranteed for 6,000 hours average life.

Bulletin No. 121B, describing the use of infra-red heat lamps generally, can be had by writing the Wabash Photolamp Corporation, Brooklyn, N. Y.



Bardwell & McAlister's new "Single Broad" with barn door accessory, which eliminates the use of Soboc's which the manufacturer states facilitates faster shooting and better pictures by positive control of light. The other accessory, the low bracket, permits placing the lamp at any height from eight and a half feet to as low as one foot.

News Picture Competition

Announcement of the results of the Sixth National News Picture Competition conducted by *Editor & Publisher* reveals another prize-winning record for the men using Graflex and Speed Graphic cameras. All five of the prize-winning pictures, and all but one of the pictures receiving Honorable Mention, were made with these American-made cameras.

In accordance with its yearly custom, The Folmer Graflex Corporation presented the Graflex Award for the year's outstanding press photography—a diamond-studded gold watch charm—to each of the following: First Prize-Winner, Borrie Kanter of the Chicago *Times* for his picture "It Shouldn't Happen Here"; Second Prize-Winner, Clarence Albers of the New York *Journal and American* for his picture "Custody Flight"; Third Prize-Winner, Samuel Myers of *Wide World Photos* for his picture "Hollingshead Fire"; Fourth Prize-Winner, Michael Converse of the San Jose (Calif.) *Mercury Herald* for his picture "The Thrill is Gone"; and Fifth Prize-Winner, Hy Peskin of the New York *Mirror* for his picture "Kill the Ump!"

Added laurels for users of Graflex-made cameras were won in the 1941 New York Press Photographers' Association Annual Photo-Exhibit where 14 out of the 15 winning pictures were made with these cameras—and in the 1941 Pittsburgh Press Photographers Association News Pix Exhibit where all 15 winning pictures were made with Graflex or Speed Graphic cameras.

Bell & Howell "Oscillatory Stabilizer"

Bell & Howell announce a new device which is said to eliminate completely all audible trace of sound "flutter."

"Isolation," says B & H, "is the answer. With the oscillatory stabilizer we have completely isolated the stop-and-go film movement from the sound drum. Thus no variations in film speed ever reach the scanning beam, where the sound is 'taken off' the film, and 'flutter' is eliminated."

The announcement goes on to explain that as the film leaves the usual second sprocket, it passes through the new oscillatory stabilizer, where any remaining irregularities in film flow, no matter how minute, are first reduced to a still lower degree and are then completely absorbed from the film flow by an oscillatory movement operating on the principle that opposing forces that are equal, cancel each other. Thus, it is claimed, only a constant, even flow of film can reach the sound drum and the scanning beam. B & H claim that in this manner, the cause of sound "flutter" is killed at the source, and that Filmosound reproduction of music and the spoken word reaches the ear with a new fidelity, smooth and even to a degree hitherto unknown.

The oscillatory stabilizer is patented and is available exclusively on Bell & Howell Filmosounds.

For further information, write to the Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

Bardwell & McAlister "Single Broad"

Bardwell & McAlister, Hollywood lamp manufacturers and well known for their widely used "Baby Keg Lite" and the "Dinky Inkie," are now placing on the market a new lamp called the "Single Broad." The manufacturers announce the same high standard of engineering and workmanship as found in the previous models. This new "Single Broad" was designed primarily as a filler light. It uses either a 500 watt, T-20 clear C-13 medium bipost, 3200 degrees K and C.P., 3380 degrees K, or a 750 watt, T-24 Clear C-13 medium bipost, 3200 degrees K or C.P. 3380 degrees K. The new unit lists for $45.00 complete with double riser stand with folding legs and 25 feet of high quality rubber cable.

Kalart Speed Flash Contest Winners

By using the Speed Flash for pictures formerly attempted with studio lights or sunlight, photographers are finding that they capture the spontaneity of action and expression as well as permitting a greater depth of field.

The winners in the recently conducted Kalart Speed Flash contest are: Truman B. Gordon, Oil City, Penn., first prize; Nathaniel Field, Brooklyn, N. Y., second; William C. Eckenberg, New York, third; Miss Freida Zylstra, Chicago, fourth; Mrs. M. Hatry, New York, fifth; William Terzian, Almhurst, L. I., sixth; A. E. Hallowell, Upper Darby, Penn., seventh; George L. Bewley, eighth; F. H. Ragsdale, Los Angeles, ninth, and on through a list of thirty-four other winners.

New Kodak Data Book

● A new Kodak Data Book, containing extensive information on the making of Kodachrome and black-and-white slides, is announced by the Eastman Kodak Company, Rochester.

The book will have special interest to educators, scientific men, and commercial workers, as well as amateur photographers. Price of the new "Kodak Data Book—Slides and Transparencies," is 25 cents.

(Continued on page 28)



KODATRON SPEEDLAMP

Flash Freezes Motion

THE girl in the illustration above was caught in one phase of a whirl of fast dance routine. No human motion is too fast for this lamp. Models need not be posed, but may be caught in the rehearsal of a bit of action and "frozen" with wire-sharp definition. The light provided by the Kodatron Speedlamp flash is so powerful that exposures must be made with small diaphragm openings, insuring depth of field.

EFFICIENCY AND ECONOMY OF OPERATION

The Kodatron Speedlamp uses very little current and its gas-filled flash tube is good for over 5,000 fully efficient flashes before replacement is necessary. No special wiring or fusing is required for this lamp. Shutter synchronization is simple. A 50-watt lamp within the flash tube gives a preview of the light balance on the subject.

Kodatron Speedlamp complete, including power unit, one Kodatron Flash Tube, 18-inch reflector, telescoping standard, and synchronizer cord . . .	$400
Kodatron Flash Tube (replacement)	30

Descriptive circular will be gladly supplied on request

EASTMAN KODAK COMPANY, Rochester, N. Y.

TELEVISION

BLITZKREIG IN RADIO!
By R. P. Daugherty

FOR YEARS leading radio inventors of many lands have matched their wits to conquer the problem of static and other unwanted noises that mar radio reception. Among these men was Major Armstrong, who tackled the problem back in 1915 and who today gives us one of his greatest inventions—Frequency Modulation.

But just what is Frequency Modulation? To answer as simply and briefly as possible, it is a new system of radio broadcasting. Radio signals are carried by waves which have the properties of amplitude, the height of the wave, and frequency, which is the length of the wave. The conventional type of broadcasting changes the amplitude or height of the wave, whereas Frequency Modulation alters the frequency, leaving the height alone. Since static, including both man-made and natural, affects only the amplitude or height of the radio wave, not its frequency, such static is absent in Frequency Modulation. But there is another great advantage!

Imagine, if you will, that you are listening to a Frequency Modulation program. An orchestra is playing. Each note comes across the miles as if you were sitting in the very studio with the orchestra. The upper ranges of the violins are clear. Each tone reaches your ear with startling realism.

A musician taps the triangle; its "ting" comes through with startling clarity. Between selections the station is so quiet that you hardly can believe your set is turned on. Voices and music ring against this silent background with a new warmth and richness.

The announcer whispers, and you start at his nearness. A match strikes; you can hear it crackle. You can even hear the intake of breath as a cigarette is lit. In fact, Frequency Modulation is so life-like you feel you can almost reach out and shake hands with the announcer.

Also, if you live in a small town away from the main centers of population, you probably know what happens when evening comes. Distant stations begin to creep in on your dial, bringing with them cross-talk and other forms of interference that at times becomes almost unbearable. Here again, Frequency Modulation is the solution.

This new form of radio transmission has the characteristic whereby the stronger of two radio signals predominates. You hear one or the other, but not both. For instance, so sharp is the distinction between the two F M stations that you can drive from one town to another with an F M receiver in your car and at one definite location you will magically stop hearing one station, only to have it replaced by the other, without even retuning the receiver!

Frequency Modulation therefore makes possible the use of hundreds of new broadcasting stations. Many small towns can have their own broadcasting studios, offering programs of superb fidelity and of local interest, and unbothered by other stations.

Numerous stations are already operating with this new form of transmission, more are authorized for construction—and an increasing number of applications are being received. In fact, many existing radio stations are seeking permits to use this new broadcasting medium. Newspapers, too, are entering the field. The new applicants come from virtually all sections of the country. At this writing, forty-three stations have already been authorized for commercial F M operation.

Since Frequency Modulation programs cannot be received on present radio models this new system promises a great amount of activity ahead in the radio industry. While naturally the change-over into Frequency Modulation could not be made over night, in view of the some thirty-odd million radio receivers in this country—there is, however, already a surprising amount of activity in the production end.

A number of manufacturers already have Frequency Modulation receivers on the market, and it is estimated there are several thousand receivers already in use. The prices of the sets range from $60.00 for small table models to several hundred for the larger high-fidelity combination models. As more sets are sold, this price range will of course be reduced.

To avoid any possibilty of undue obsolescence, it is said that a number of the new receivers will be designed to receive both the conventional tvpe of radio broadcasts and Frequency Modulation. Whatever further developments occur in the immediate years ahead, one thing is certain! Frequency Modulation is here to stay. It is Electronics' new Blitzkrieg. It is out to add a brilliant new chapter of opportunities to the history of radio industry, with many possibilities for properly trained men.

To any of our readers interested in entering the field of radio or television the writer of the above article will be glad to supply information if you address him, care of International Photographer.

● Recently Miss Catharine Sibley in our pages issued a challenge to open up the new frontier of Television. She pointed out the necessity of developing a new technique for Television, and of setting up a course of program experimentation for Television alone. She reports her invitation to trail blaze, far from going unheeded, has had surprising and heartening response.

Among those attending her recently inaugurated course on the New Technique of Television Production and Acting, given under the auspices of the University of California Extension Division, were: Mr. Paul Kerby, composer and one-time conductor of the Vienna Philharmonic Symphony orchestra and musical advisor to the Salzurg Festival; Miss Emily Barrye, former assistant director with Cecil De Mille, and now associated with Harold Lamb, the historical novelist; Mr. Denison Clift, who has directed motion pictures in this country and England, and his wife, a writer of note; Mr. Norman Lapworth, scientist and authority on acoustics, who was associated with the University of California's famed World's Fair Exhibit in San Francisco last year; Miss Mona Hofmann, mural painter and assistant to Diego Rivera on his now famous mural on Pan-American Unity; Mrs. Lucie Chapman, who with her husband has made a national reputation for herself as lecturer and photographer of wild animals in America.

This group with its trained talents in varied professions constitutes the nucleus of Miss Sibley's production staff for Television program experimentation over Don Lee's station W6XAO during the coming months.

Survey of Motion Picture Equipment in Colleges and Schools

● A survey of motion picture equipment in colleges and high schools in the United States and its possessions, compiled by Nathan D. Golden, Chief of Motion Picture Division, Bureau of Foreign and Domestic Commerce, may be secured from the Educational Department, RCA Manufacturing Company, Inc., Camden, N. J. The price is $3.00. The survey includes name and location of 17,500 colleges and high schools having motion picture and slide film facilities.

PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,232,827 — FILM FIRE SCREEN FOR MOTION PICTURE APPARATUS. *Nicholas A. Nicholson*, Johnstown, Pa. Appln. April 18, 1939. 4 claims.

A device for projectors in which the action of the film strip passing through the machine operates the dowser.

No. 2,233,010—LIGHTTIGHT PACKING FOR PHOTOGRAPHIC FILM. *Kurt Hipke* and *Alfred Miller*, Germany, assignors to General Aniline & Film Corp. Appln. Feb. 28, 1939. In Germany March 1, 1938. 4 claims.

A light-sensitive photographic roll film provided with means for preventing the reflection of creeping light in connection with said film, said means comprising a roughened surface extending across an end of the film.

No. 2,233,284—FILM DRIVE STARTING APPARATUS. *Milford E. Collins*, assignor to Radio Corporation of America. Appln. April 23, 1938. 9 claims.

A device for decreasing the starting time of film drive apparatus, making use of a magnetic drive which has the magnetic connection strengthened while the motor is accelerating.

No. 2,233,771 — MOTION PICTURE MACHINE. *Pierino Edward Comi*, Wollaston, Mass. Appln. Aug. 2, 1938. 7 claims.

A motion picture projector which has a series of rollers located between the picture projection head and the sound head, these rollers bearing on the edge of the film to prevent its vibrating.

No. 2.233,809—CINEMATOGRAPHIC APPARATUS. *John R. Darby*, assignor to Technicolor Motion Picture Corp. Appln. Jan. 31, 1939. 2 claims.

A device for printing border lines on motion picture film, and using an endless opaque film with transparent lines corresponding to the border lines which is passed around a housing having a light in it, with a picture film superpositioned on the endless film.

No. 2,233,839—MOVING PICTURE PROJECTING MACHINE. *Antoine Heurtier*, Saint-Etienne, France. Appdn. June 2, 1939. In France June 10, 1938. 3 claims.

A projector adapted to be used with different size films and having correspondingly sized sprockets mounted on a rotatable plate somewhat similar to a turret plate, with a rotating spindle supporting the plate and driving the sprockets.

No. 2,234,950—PROJECTION SCREEN. Robert E. Barclay, assignor to The Richardson Co., Lockland, Ohio. Appln. Jan. 24, 1938. 5 claims.

A projection screen suitable for both transmitted and reflected images, and formed of a plurality of layers of translucent paper bonded together, one surface being polished and one being roughened.

No. 2,235,033 — COMBINED SOUND AND COLOR PICTURE FILM. *Alfred Miller*, assignor to General Aniline & Film Corp. Appln. Nov. 5, 1937. In Germany Nov. 9, 1936. 1 claim.

A color film having a sound track formed in a black and white emulsion on one side of the film, with the color emulsions on the other side of the film, these likewise having the sound track printed in them.

No. 2,235,743—APPARATUS FOR TAKING STEREOSCOPIC PICTURES. *Pierre Gagliardi*, Paris, France, assignor to Etablissements Emel S. A. R. L., Paris, France. Appln. Feb. 9, 1939. In France Feb. 9, 1938. 3 claims.

A device for taking stereoscopic pictures which has two lenses which are both focused by a single adjustment, the same adjustment rotating a prism to compensate for parallax.

STRANGE ENGINEERING UNDERTAKING

By Charles R. Perryman,
News of the Day

One of the world's strangest engineering undertakings is now under way at Mud Mountain Dam in the State of Washington. They are covering a deep canyon with one of the largest known tents so they can build a dam under it, all the while keeping everything nice and dry, they hope.

Thirteen thousand square yards of heavy waterproof canvas was cut to fit the zigzag edges of the canyon, where an area 196 by 328 feet will be covered. The canvas weighs 30,000 pounds dry and will be suspended by overhead cables. A series of pulleys and cables make it possible to clear the snow from the top of it and around the canyon walls have been constructed gutters into which the huge tent can drain.

Under this huge protecting canvas men and machinery will work for many months to come on the earthen core of Mud Mountain dam.

Newsmen were not permitted to ride up and down into the canyon on the "skip" and, as you can see by the photograph, the walls are straight up and down, making it a tough job getting outfits in or out, hence the Eyemos.



Left to right: Charles Perryman, News of the Day; Chalmer D. Sinkey, Fox Movietone News; Earl Nelson, Universal News and Bill Hudson, Pathe News "getting the latest" on Mud Mountain Dam.

MOVING MOUNTAIN AT WARNER BROTHERS

A MOVING MOUNTAIN has been brought to the interior of the largest sound stage on the Warner Bros. studio lot. Its base is anchored to a revolving steel table. A whirl of the table, which operates on the principle of a simple merry-go-round, and the mountain will turn any one of its sixteen faces to the camera.

The revolving mountain is just one feature of a set constructed for "Sergeant York." The original title of this film based on the exploits of America's most famous World War hero was "The Amazing Story of Sergeant York." Art Director John Hughes must have planned his key set before the title was shortened. Certainly this particular background is nothing less than amazing.

In the confines of 250 by 135 feet of floor space, Hughes and his technical assistants have duplicated an entire Cumberland mountain valley flanked by promontories and ridges, and bisected by a turbulent, rock-bedded stream. One of the promontories is the moving mountain.

The set represents, with complete authenticity, a part of the Tennessee mountain valley of the Three Forks of the Wolf, where Alvin C. York was born and reared and where he still lives. For various reasons, chiefly the availability of facilities, it was considered more practical to bring a part of the Three Forks of the Wolf to Hollywood than to take a part of Hollywood to the Three Forks of the Wolf.

The revolving mountain was inspired by the demands of the screen play. In the first place, as Art Director Hughes pointed out, a real mountain is as changing in its appearance as a chameleon. It looks one way in the soft glow of moonlight, presents quite another face in the harsh glare of noon.

There are scenes in the picture which will show Gary Cooper, who plays Sergeant York, walking the mountain trails by moonlight with Joan Leslie, the Gracie Williams York of the story. There are other scenes which show him looking out over the fog-shrouded valley in the early twilight, fox-hunting in the cool morning and ploughing the rocky slope in the heat of the day. In all there will be sixteen different camera setups requiring the mountain background.

Many of the changes could be achieved by lighting. Others, involving physical details, could not. It would have been possible to build six, or sixteen, separate mountain sets—deep ravines, rock ledges,



Revolving "mountain" built on Warner Bros.' largest sound stage

rugged promontories and cedar thickets. It was simpler to combine them all in one, once the idea of revolving the mountain was conceived. It was also far more effective, because the tumbling stream and a rock-ribbed ploughing field are always there as background or foreground perspective for the various faces of the mountain.

Art Director Hughes had many conferences with Hal B. Wallis and Jesse L. Lasky, producers of the picture, and with Howard Hawks, the director. Then he perfected his sketches of the entire setting, followed them with a small scale model, complete in every detail. Then blueprints were made and handed over to Construction Foreman Henry Fuhrman, and three daily shifts of 75 men each began the physical task of bringing mountains to a Hollywood sound stage. It was a job that required ten full 24-hour days.

The circular table upon which the revolving promontory rests is 35 feet in diameter. The promontory itself rises to a peak 40 feet above the stage floor. Total weight of this mountain is 60 tons.

Across the stream that skirts the base of the moving mountain another rocky promontory rises. This peak is stationary, anchored by steel and concrete to the stage floor. So are other ledges and cliffs, and so is the hillside slope that Cooper will laboriously plough, following a plodding mule. That will be real ploughing, too, as a coating of dirt eighteen inches deep has been placed on the hillside field.

The mountain stream wanders and tumbles a distance of 200 winding feet. Its bed has been cemented, to hold the water that will be fed continuously from a high tank, caught in a low one and pumped back for use again. Real mountain boulders have been strewn along the bed, and real grass springs from the sod that has been set by the stream. In all, two tons of boulders were brought to the set for artful distribution.

The man-made mountains are creations of timber, cloth, plaster moulding, rock and soil. The timber supports are so constructed as to give the contours of a real mountain. Over them is placed a sheeting of heavy cloth. Then the moulded plaster "skins"—casts made from moulds taken of real rocks, clefts and sections of mountain terrain—are placed. There are 600 of those "skins," each covering an average of 40 square feet, on the mountains of Hollywood's "little Three Forks of the Wolf."

Finally came the soil, the patches of grass-growing sod, the shrubs and the trees. Real trees, 121 of them, were brought to the huge sound stage, which fortunately is the largest in Hollywood, and were hoisted to new anchorages on the rocky slopes of the mountains and the floor of the valley. Some of them are pine and oak, but 75 of them are cedars. The cedars are the predominant trees of the Three Forks of the Wolf, and that meant difficulty for the studio. There are few cedars in the Southern California mountains. It was necessary to bring these trees from the northern sections of the state.

Just to be on the safe side, Art Director Hughes provided some "spare parts" for his revolving and stationary mountains. Ten pieces—sheer precipices, jagged peaks, a minor promontory or two—were constructed. Mounted on casters so they can be swiftly moved into any desired place, they stand at a far end of the huge stage, ready for an emergency call to action.

NEWS FROM THE STUDIOS

"Oomph" Measured Scientifically

Motion picture studios can save themselves a lot of money by having the sex appeal exuded by their potential "oomph" girls measured scientifically, according to dispatches received at Warner Bros. from San Francisco.

The assertion was made by Dr. Joseph W. Catton, noted psychiatrist and professor of clinical medicine at Stanford University. He said "that certain something" was susceptible to scientific measurement in a lecture to a San Francisco State College psychology class.

In expounding his thesis, Dr. Catton suggested the term "manpower" as the measure of the appeal of a maid for a man, for he said it could be measured as accurately as engine horsepower. Explaining how it is done, he said:

"One by one, the members of a representative cross-section of the movie-going public are shown a photograph of, say, Marlene Dietrich.

"The meter recording of the emotional reactions of the average fan to the name and the picture of Miss Dietrich are scored in units of 'manpower' on devices we have to show the psycho-galvanic change, and the responses of pulse, blood pressure and respiration.

"Next a group of suggestions is made, such as:

" 'You and Miss Dietrich are picnicking together.'

" 'You are riding along together in a coupe.'

" 'You are dancing with Miss Dietrich.'

" 'You are kissing Miss Dietrich good night.'

"Units of credit should be given for 'no reaction.' 'mild reaction,' 'strong reaction,' on the metered responses. There is your measure of 'manpower.'

"If a motion picture company were to apply the tests to a random 100 men and thus determine the actress with the greatest number of 'manpower' units, this might avoid making large investments in abortive careers of many young girls who are merely beautiful."

Dr. Catton evidently picked a good example, for after his lecture, the psychology class conducted a number of such tests with the names and photographs of Hollywood's leading exponents of allure and reported that Marlene Dietrich's "manpower" rating was 96, the highest score. Ann Sheridan, the original "oomph" girl, was second with 95, and the next three were Betty Grable, Rita Hayworth and Lana Turner.

Make-up Replaces Tights on Sonja

Streamlining experiments have added another new trick to Sonja Henie's skating technique and incidentally saves her over $100 a day during the three-week period during which she will film skating sequences for her current 20th Century-Fox picture, "Sun Valley."

Sonja has found that by discarding the hip-length silk tights which she has always worn, and substituting body make-up on her legs, it gives her more freedom of action and increases her skating and spinning speed. So in this picture tights are out in favor of make-up.

The tights which she has always worn before cost her $35 a pair, and during a day's filming on the rink she wore out an average of three pairs a day. Being made of over-length silk stockings, a couple of hours of activity in them starts a run which makes them useless after that. Now there won't be any "run" trouble, and Sonja will also save time by not having to make changeovers.

Sonja also recently discovered that by wearing tight shorts, without any skirt, she could increase the speed of her spin to three times what it would be with a tiny short skirt on. These streamlining effects are going into "Sun Valley" to provide Sonja Henie skating fans with more sensational effects to try and copy.

Cliff Edwards Forced Into Musicians Union

Cliff Edwards, sometimes known as "Ukulele Ike," who has been playing his Ukulele on stage and screen for 22 years without having to join the Musicians Union, has been notified by its president, James C. Petrillo, that the ukulele has finally been classified as a musical instrument.

Therefore, Edwards was told, he will have to join the union if he wishes to continue playing his ukulele on stage or screen. He applied for membership at once, because he plays the instrument as part of his current role in Warner Bros.' "The Flight Patrol," co-starring James Stephenson and Ronald Reagan.

Claudette Colbert in "Remember the Day"

Claudette Colbert, dark-haired film star, will return to the 20th Century-Fox lot shortly for one of the finest roles of her brilliant career.

Darryl F. Zanuck announced that Miss Colbert had been signed to star in the film version of the successful stage play, "Remember the Day," which is scheduled to go into production after about six weeks.

The play, one of Broadway's major hits, was written by Philo Higley and Philip Dunning. Twentieth Century-Fox is reported to have paid a fancy price for the film rights. William Perlberg will be Associate Producer of the film production.

Tess Schlesinger and Frank Davis turned out the screen play for "Remember the Day," a romantic drama.

Miss Colbert, one of the screen's top figures, made her last appearance on the 20th Century-Fox lot in "Drums Along the Mohawk," with Henry Fonda and John Ford as the director. That was one of the most successful pictures turned out by the studio last year.

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TRADEWINDS

(Continued from page 22)

Leitz Cover Glass Plates

Many professional and scientific laboratories who make numerous 1 x 1½ inch color transparencies have found that the ground edges of the Leitz Cover Glass Plates permit slides to be made with greater rapidity, make the final slide neater in appearance, and result in bound slides which are more uniform in size. As a convenience to those who make large numbers of slides, the Leitz Cover Glass Plates are now available in a special "Laboratory Packing" which contains 600 glass plates. This package lists at $7.00.

Solar Enlargers With Variable Light Intensity Bulb

Announcement comes from Burke and James, Inc. that Solar Enlargers are now fitted with a three filament lamp that provides evenly distributed 50, 100 or 150 watt illumination and a special three switch position socket. This really worth while improvement enables the operator to match the intensity of the light to the density of the negative.

On thin negatives, the lower light intensity tends to improve print contrast while on dense negatives a more powerful light acts to provide a wider gradation of tones in the print. This new feature is now being furnished as standard equipment on Solar enlargers at no increase in price.

Another "first" for Burke and James, Inc., Chicago, Ill., comes in the form of the Solar Table Switch. The switch with its feather touch light control, (and Special Mercury contacts make for safety, no sparking, and long life) operates the new three power enlarger bulb.

Depressing the push button turns the light on, depress it again and the light turns off.

Agfa Triple S Ortho

Newest member of the family of professional films manufactured by Agfa Ansco in Binghamton, New York, is *Triple S Ortho*, an achievement in film-making that brings outstanding advantages of value to many photographers. Manufacturers state that emulsion of this new film exhibits a combination of extreme speed and high orthochromatic color sensitivity, together with an essentially long-scale, yet moderately-brilliant portrait gradation which makes it preferred on the many occasions in portraiture, commercial and illustration photography when extreme speed is necessary and the tone rendering of a highly orthochromaticfilm is desired. Speed is comparable to Agfa Superpan Press and Triple S Pan films, and its gradation and color-sensitivity characteristics make it well adapted to use in tungsten and fluorescent illumination as well as daylight. Other features of interest include: a back-coating for halation prevention; an anti-abrasion matte surface-coating that facilitates negative retouching; and a spectral sensitivity that permits development with occasional inspection by red safelight.

Triple S Ortho is available through regular sources of supply in all standard sizes on Safety Base, and at no increase over standard prices for other Agfa orthochromatic sheet films.

Hollywood

Hollywood! City maligned,
Censured, praised, misunderstood,—
Apollo's Oracle enshrined
Afar from Delphi's sacred wood!
Pythia speaks, in pictured thought
Old when Babel's language, banned,
Became confused. In boldness wrought,
Her flick'ring hieroglyphs are scanned
By all the peoples, races, creeds,
On screens stretched taut across the world.
Modern Dionysian deeds,
Captive visions, swift are hurled
In glowing incandescence bright,
To tell in Universal tongue
The stories chalked in torches' light
By cave-men when the world was young.

City of a thousand lies,
Gomorrah of Pacific Coast,
To those who drink, with bleary eyes
To a mephitic Sodom's toast!
Scioned by a sturdy stock,
Edened by Creator wise,
Guardianed by Sierra's rock,
Thou, an earthly paradise.
Surfeited with beauty rare,
Blest with months of cloudless sky,
Sensuous-sweet your perfumed air,
Lovely village, doomed to die!
In your place a city born,
Sired of visions, fed light's gleams,
Taught to speak in love and scorn,
Grown to fame because of dreams.

Thou has suffered blasphemies,
Meekly worn a martyr's crown,—
Undeserved the heresies
Of those who would tear thee down.
You who nurtured De Longpre,
Builded churches, homes and schools,
Lived content and learned to pray,—
List ye not to frothing fools!
We who live close to your heart,
Loyally defend your name,
Glad to be of you a part,
Proud to share your envied fame.
Censured, praised, misunderstood,
In a seething maelstrom whirled,
Pagan, Christian Hollywood,
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INTERNATIONAL photographer

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On the cover
This still by Oliver Sigurdson was made during filming of "Parachute Battalion," RKO Radio Production, as were the pictures on pages 12, 14 and 15. The shots were made from a specially constructed army car with a Graflex under heavily overcast skies.

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SUN AND WIND

By William Mortensen

MEXICO'S MOTION PICTURE FESTIVAL



Among those making the trip to Mexico City to partake in President Avila Camacho's Motion Picture Festival were (left to right) Brenda Marshall, William Holden, Sabu, Wallace Beery, Kay Francis, Desi Arnaz, Lucille Ball, Norma Shearer, Mischa Auer, Esther Fernandez, Patricia Morison, Frank Morgan and Frank Capra. ***Bachrach***

By William Wallace

With fifty stars, executives and correspondents back at work, leaving behind them in Mexico City the ringing cheers of hundreds of thousands, Hollywood is being acclaimed today as America's first diplomat.

The occasion was the attendance of the motion picture industry's delegation to President Manuel Avila Camacho's Motion Picture Festival, April 12 to 14. In Washington and Mexico City, high government officials agree that no mission in a compass of years has so thoroughly and graciously done its work.

No selling mission, no outright stunt in support of any single motion picture, the visit of the Hollywood stars to Mexico was purely and simply a testament that the people of the North American continent are bound together in the common cause of Democracy and a free life. The ties of equality and friendship became apparent before the planes had been three hours out of California. The first landing on Mexican soil in Hermosillo was accomplished in a boil of humanity which surrounded the planes and cheered the stars. After a brief customs stop, the party proceeded to the famous seaside city of Mazatlan, noted for its sports and fishing. There, in a democratic outburst of informality, stars and working press alike shared simple accommodations, mingled openly with the populace in the streets and quickly established the mood that prevailed throughout the entire trip. The city of Mazatlan arranged a dinner for that evening, and the first official visits were accomplished there.

Colonel Rodolfo T. Loaiza, Governor of the State of Sinaloa, and his Honor, Federico Cuevas, Presidente Municipal of Mazatlan, joined in welcoming the Americans to Mexico. After the official dinner, the Hollywood party split up, some visiting the Cathedral, crowded with Good Friday worshippers, some the world-renowned beach, others meeting the leading Mexicans who live there.

Soon after dawn next morning, the entire party took off for Mexico City, which the three Pan-American planes reached just before noon. After circling the city three times in formation, the planes landed at the airport to be met by hundreds of thousands of Mexicans who not only jammed every corner of the large field, but lined the city streets for seven

CAVIAR OR CORNED BEEF?

George Jean Nathan has somewhere remarked that to the Englishman sex is beefsteak, while the Frenchman regards it merely as *hors d'oeuvres*.

The French as a race have an amazing gift for intellectual detachment. Affairs and issues that an Anglo-Saxon gets emotionally embroiled in, and which he messes up with sentiment and prejudice, a Frenchman regards in a clear, cold light. Under this light he perceives that many of these things are very pleasant and very amusing, but nothing to get apopletic about. So he proceeds to smile at them, to enjoy them—and forthwith to forget them. A particular evidence of the detachment of the Frenchman is his well-known skill in setting forth the lighter and more amusing aspects of sex, and in enjoying them without blushes and without sniggers.

Anglo-Saxons practicing this phase of nude art, being unaccustomed to it, and perhaps temperamentally still unreconciled to it, must assiduously practice lightness of touch. A bit of grossness, a bit too heavy an accent, a bit too much aggressiveness—and your caviar becomes corned beef. In thought, in action, in structure—the picture must conform throughout to the lightness of its intent.

—*William Mortensen,*
"*Monsters and Madonnas*"

miles into the city itself. The party was put into three huge busses and, guarded fore and aft and on the sides by squadrons of motorcycle police, the Hollywood guests sped to the Hotel Reforma, on Mexico's famed Paseo de la Reforma, the historic street down which the Presidents of Mexico have ridden and down which, also, the tragedy-freighted Maximillian and Carlotta used to ride.

The party no sooner had landed at the hotel than it refreshed itself from the long airplane trip and proceeded at once to the American Embassy for official reception by Honorable Josephus Daniels, United States Ambassador to Mexico, and Mrs. Daniels. Following this, the entire group was received by His Honor, Rojo Gomez, the Mayor of Mexico City. In the few hours remaining until nightfall, the stars prepared for the first of a series of personal appearances in the leading film theatres of the city. That night, through screaming, cheering mobs of countless thousands, the stars visited four theatres, in which not only every seat but the aisles themselves were jammed from entrance right down to the footlights. Mexican stage and film actors of renown volunteered as masters of ceremonies and introduced the personalities to wild applause. The theatre managers in each case served buffet supper backstage.

The Sunday program began early with a charro festival and riding and bull fighting exploits for the Hollywood guests. After a thrilling exhibition of Mexican prowess in these sports, the party departed for El Rancho Blanco, the oldest ranch in Mexico in the unbroken possession of one family. For 416 years, almost since the time of Cortez, the ranch has been held by the Alessandro family. There native Indian Aztec and Chichimeca tribes performed centuries old dances and rituals to the fascinated gaze of the Hollywood visitors. One group of Chichimecas, performing he now forbidden ritual of El Volador, had walked 150 kilometers to show the men and women of the United States a thrilling, ancient Aztec ritual ceremony in which six men, seated atop a narrow platform on a 100-foot pole, suddenly leap into space and slowly spiral down, head-first on the end of long ropes.

A barbecue in the native style was served at El Rancho Blanco, after which, reluctantly leaving the ancient rancho and its picturesque old buildings, some of the party returned to the hotel while others visited Chapultepec Castle, the home of Maximillian and Carlotta, and of Mexican presidents after them. This ancient hill was the original home of the Aztec emperors, the only high spot in the middle of a volcanic lake. When Mexico City began to grow after the Spanish conquest, the lake was gradually filled in until now the great city sprawls across a man-made plain in which Chapultepec stands high and alone. Special privileges were extended by the Mexican Government to the Hollywood visitors and they were taken upstairs in the palace into the living apartments of Maximillian and Carlotta, later to be occupied by a succession of Presidents, notably the famous Porfirio Diaz. There they saw Carlotta's own furniture and decor, the famous Aubusson carpet, the crystal chandeliers, the gold-plate, the silver and other now national treasures of Mexico, including priceless tapestries given to Maximillian by religious and political orders in France.

Easter night the film group made personal appearances at five theatres, after which in the gigantic, stunning Palace of Fine Arts they were guests of the Mayor of Mexico City at a formal banquet and ball.

The event to which all had looked forward and which was in effect the capping of the entire trip, took place soon after noon on Monday when, after a series of visits to the Ministries of Interior, Communications and Foreign Relations, the entire group was received by His Excellency, Manual Avila Camacho, the President of Mexico, in his suite in the presidential palace, the White House of Mexico City. President Avila Camacho expressed the pleasure of himself, his government and his people at the visit, and his sentiments were responded to by Direc-



Milling crowd outside Hotel Reforma at night *(Wallace)*

tor Frank Capra, speaking for Hollywood and the United States.

The group went direct from the palace to the airport, boarded the three planes and flew to Guadalajara, second city of Mexico and home of the famous pottery and glass wares of Mexico.

The populace of Guadalajara jammed the streets leading to the hotel from four directions and, although the Mexicans are used to retiring early, they stood there patiently awaiting glimpses of Hollywood's leading stars and executives from 5 o'clock in the afternoon until after 4 o'clock the next morning, at which time there still were several hundred waiting. Their patience was rewarded soon after dawn, when the visitors began assembling for a dash to the airport. There the planes took off for the last leg of the return flight.

The official list of those who went to Mexico City to meet an outpouring of true democratic spirit and co-operative kinship between two countries follows:

John Hay Whitney, David O. Selznick, Norma Shearer, Mrs. Douglas Fairbanks, Sr., Mickey Rooney, Frank Capra, Jock Lawrence, Kay Francis, Wallace Beery, Johnny Weissmuller, Frank Morgan, Brenda Joyce, Brenda Marshall, Joe E. Brown, Louella O. Parsons, Dr. Harry Martin, Francis Alstock, Mr. and Mrs. William Wilkerson, Mischa Auer, Patricia Morison, Esther Fernandez, Desi Arnaz, Sabu, Lucille Ball, William Holden, Susan Hayward, Mr. and Mrs. Oliver Hardy, Mr. and Mrs. Stan Laurel, Mary Gordon, Edwin Schallert, Major Claussen, Mr. and Mrs. Kenneth Thomson, Ralph Jordan, Luigi Luraschi, Ione Drake, Charles Daggett, William Wallace, Blayney Matthews, Les Petersen, John Truesdell, Kay Proctor, Shaik Dastagir, Herbert Klein, Irving Rubine, Whitney Bolton, Ivan Spear, Carl Schaefer, Ralph Wilk, Mr. and Mrs. Drew Pearson, Mr. and Mrs. Robert Vogel, Raymond A. Klune, Raymond Clapper, Miguel de Zarraga and Whitey Hendry.

So enthusiastic are all these that they have volunteered to repeat the trip to any Latin-American country designated by John Hay Whitney, who is chairman of the Federal committee drafted to promote better relations between the Americas.

With all of our hard work and heavy schedule on an assignment like this, there was always something humorous that seemed to stand out. Other than competing with the Mexican photographers who were always courteous and gentlemanly I found it difficult to talk to them and they found it just as difficult to understand me. Having a very large party, some fifty people, and anxious to cover for all of the studios and their contract players, necessitated that I get back quite a distance and take in a large spread. I would get way back to get the spread, then twenty-five or thirty Mexican cameramen would move in and start banging away.

Before my next trip I will go to Hollywood High School and learn a few words

(Continued on page 26)





Upper, left to right: David O. Selznick, Mickey Rooney, Ed Schallert, Mrs. Kenneth Thomson, Norma Shearer, Mexican official, Kay Francis, Dr. Martin, President Manuel Avile Camacho, Patricia Morison. Lower: Johnny Weissmuller and Esther Fernandez. ***(Wallace)***

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Stills by Clifton L. Kling with Speed Graphic











Top: Troop's Colors and Color Guard; center left, dismissal of troops; right, Byron Barr, Garry Owen and Larry Williams watch Bill Justice "kick" a horse before going into jumping show; lower left, Bill Justice and horse falling over a jump; right, trooper in training practice.

CASTING FOR TRAVELOGUES

By Ray Fernstrom

One of the toughest jobs connected with the shooting of travelogues and that type of short film in color is commonly referred to as CASTING, and about which so many stories have been told, casting aspersions on the industry and we who are connected with it. Yet nothing "flowers" a beautiful short quite as lastingly as pretty gals.

Of course one might say that other casting up here is better, out on some lake or stream, after speckled beauties of the mermaid class. Yes, the fishing is excellent here in the vacation land that has everything.

Leon Shelley, the producer and our pleasant boss, is the type of workman who believes whole-heartedly in the adage that "one's best work is that which one enjoys most." No wonder I love it here; myself and others enjoying our hobby and getting paid for it. To think some folks work and save all their lives to do things in their spare and retiring years, that we do every day, and have done, all this happy life. . . . ?

Oh yes, CASTING. Well it all goes back to those days of successful pictures with Jerry Fairbanks and Bob Carlisle who produce those top-notch shorts, "Popular Science" and "Unusual Occupations," also in glorious and magic breath-taking supernatural color. We don't get it either, but color pictures are fun, and often quite pretty, especially if the casting is adroitly done—beforehand.

Jerry and Bob well know the advantage to every film of gorgeous gals and feminine pulchritude, as Jerry calls it. They always stressed that angle. I took it to heart and once overdid myself, overtrained, or something. An assingment arrived from them in Hollywood as I lolled on the sands at Provincetown, Massachusetts, out on the tip of Cape Cod. Seems a very nice lady had hit on the hot idea of utilizing plain old fish nets for ladies wear. Painted, lacquered, or dipped in gold, those nets made glamorous turbans, belts, evening gowns, bathing suits and, OH, BOY, play suits. . . .

What a picture the imagination conjured up . . . and immediately! So I looked into it and wrote a script. Then to casting. I called on several ladies who ran local clubs and eating emporiums. They knew everyone in town as well as from elsewhere. I asked for several gals to act and model in my chosen fish net oufits. Twenty-four showed up. I was told how important it was not to hurt anyone's feelings so I shot film on all. It was a good picture, but drew forth a classic wire from Jerry, to-wit, and with wit, thus:

"Have just viewed with amazement your film on the lady with the fish nets. You devoted exactly seventy-eight feet to the star. The balance of your eight hundred feet coverage was entirely devoted to what we are titling Fernstroms Follies of 1938."

For months after that experience I was kept on such assignments as United States Submarines, High Altitude Aerial jobs and General Motors Proving Grounds, as well as Texas Rangers. Not a girlie show until Valentine's Day.

Last year, finally, when Shelly and I toured thousands of miles through British Columbia shooting material for Columbia Pictures' "Beautiful British Columbia," another grand chance offered itself for deft casting. The results were quite startling. It seems they have a setup here to build up the form and figure of the mass of healthy young people in this vicinity, called Pro-Rec, Provincial Recreation Activities, going in for mass gymnastics and mass bending, hopping, jumping and kicking. Really a spectacular show as all the gals wear pretty blue silk shorts and jackets. It took a week to get the group together, but with Shelly's patience we managed to set a date and place. SIX HUNDRED AND FIFTY GIRLS showed up in their blue outfits and a group of men. Never did count 'em.

As a matter of fact I didn't know they were there until I saw the picture. After we covered the mass movements I was suddenly struck with a brilliant idea. (Maybe it was the sun.) Why not, thought I, make a scene to end all scenes of gals in a line? Roxy had his, Ziegfeld his, and the Music Hall theirs, so why shouldn't Shelly and Fernstrom have theirs? We lined up those six hundred and fifty girls and made a shot down the line. History was being made. Didn't I say, "This is the vacation land that has EVERYTHING"?

This year we are up here shooting another: bigger, better super-colossal short, for just as Ralph Staub says he is *long* on *shorts*, we are *longer, stronger* and go much farther to get ours. This year we should improve. Ed Taylor is up here, too, in charge of the various and interesting shorts Vancouver Motion Pictures turn out.

Casting this year is done in the same manner I used when I joined the hundreds of others who *discovered* Linda Darnell. That was down Dallas, Texas, way. I needed a cute little girl who could put over in pantomime a rapid bit of acting in between a series of fast lap dissolves in the camera. Following fashion shows, poring over newspaper files, calling on commercial photographers and theatre managers I finally heard of a girl through Taylor Byars, a top-notch commercial cameraman. He brought her over, Monetta Darnell, who struck me as a "natural" immediately. She had been to Hollywood, had a screen test and sent home to grow up. I couldn't understand how such a thing could happen. She said she photographed "too young." I used her and gave her a high front key light that narrowed her pretty round baby face. That did the trick and she is now a Hollywood star going places fast.

In addition to the above methods we are running a talent search in all the local papers, so we expect not only to cast this epic, but perhaps locate some talent interesting to you scouts at home, for this land here certainly develops a gorgeous crop of cuties.



Trooper taking a hurdle, "Here Comes the Cavalry." *By Clifton L. Kling*

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Left: Jack Albin, photographer for Screen Guide Magazine won second place in Warner Bros. Magazine Photographers' Contest with this still of Edward G. Robinson milking a cow. Right: First prize in the "Idea" class was awarded Charles Rhodes of Fawcett Publications for this still of Ann Sheridan and Cesar Romero which was titled "Sewing Circle," made in Ann's home.

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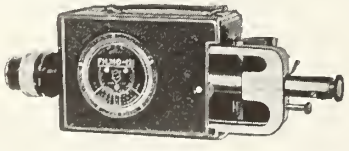
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The Winners, left to right: Bruce Bailey, Click Magazine; Mel Traxel, Hollywood Pictorial; Errol Flynn, who awarded the prizes; Jack Albin, Screen Guide Magazine; Art Carter, Hollywood Pictorial and Charles Rhodes, Fawcett Publications.

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A soldier in the newest branch of Uncle Sam's fighting forces, the 501st Parachute Battalion. *Still by Oliver Sigurdson.*

Uncle Sam's Parachute Battalion

By Guy Newhard

One of the most outstanding assignments of the past few years was the location to Fort Benning, Columbus, Georgia. RKO Radio Pictures Studio sent a large technical crew there during March to photograph scenes and backgrounds for their forthcoming picture, "Parachute Battalion." The story is an original by John Twist and Major Hugh Fite, U. S. Air Corps, directed by Leslie Goodwins, and will star Robert Preston, Nancy Kelly, Edmond O'Brien and Harry Carey.

With the exception of three preliminary recruiting scenes laid in a poor home in the South, a big business man's office, a recruiting office proper, and one sequence on a railroad train, the entire balance of the picture takes place in and around Fort Benning, Georgia, the actual home of this country's only parachute corps, the 501st Parachute Battalion.

This is the first depiction of that intrepid group of volunteers who have dedicated their lives to this newest branch of Uncle Sam's fighting forces.

Thematically, the story deals with three young men drawn from widely different walks of life and of diverse temperaments, drawn into the mutating crucible of Army life. Here is depicted in gripping detail three lives through the entire training course up to and including the final heart-stopping tests that will certifiy them as full-fledged parachute troops, trained and fit for one of the most rigorously demanding branches of the service.

Interwoven with the thrills and drama of the subject are the human values, comedy, romance, hopes, dreams, ambitions, joy, pathos, success and failure.

The authenticity of the picture makes it a visual chronicle of life in a branch of the service, a record and an example for the youth of the nation who may find themselves in the near future members of our armed forces.

When photographing in the air or from the ground toward the sky, clouds really are essential and necessary. Without them, sense of motion and speed is lost. It rained, it snowed and rained some more and when we got a break in the weather, there would either be no clouds or the wind would be too great for the boys to make their jumps. Nevertheless, during the three weeks we were there some exceptionally beautiful scenes were made and "Parachute Battalion" will be an extraordinarily pictorial picture.

Great care was taken with filters. Have you ever seen the ground in Georgia? It is brick red and with too heavy a filter, especially in the reds, the ground would become greatly over-corrected, but all cameras used a 25 (red) filter when photographing in the air and of all parachute jumps.

Our photographic equipment consisted of three Mitchell cameras, two Eyemos and, through the courtesy of the U. S. Air Corps, we also had several Akeleys and more Eyemos.

Maj. Fite has quite a large motion picture unit and his cameramen, Messrs. Haggermeyer, Andres, Rossi and Sgt. Fritz were of great assistance. A great many important scenes photographed by them will be used in the picture. This is done by the army for propaganda and publicity purposes and the motion picture companies are more than glad to cooperate with our national guardians.

This article was intended as a photographic story for this magazine, but the modern Parachute Battalion is so new and of such universal interest I'll let myself run away from the camera angle and tell you some of the important things about these boys.

The Army, in building up its parachute troops, has to depend on volunteers, cannot draft men. So it was delighted with the prospect of getting publicity through a movie thriller, kept Director Goodwins a month, sent him home with a technical adviser and 30,000 feet of film showing the troops in action which all but takes your breath away.

The most exciting scenes of this will be used in "Parachute Battalion," making that movie the most authentic of its kind ever filmed.

Captain William Ryder, one of the original organizers of the Battalion was brought to Hollywood as Technical Adviser for the picture. It was Capt. Ryder who made many of the picture's exceptionally daring jumps.

He helped select all the troopers for the background roles according to Army standards. He supervised manufacture of the parachute troop uniforms and equipment, all vastly different from any in other branches of the armed services.

Troopers, for instance, all wear special 4-pound boots, with ankle braces and sponge rubber pads. As the captain points out, a parachutist would be no good in war time if he sprained an ankle.

By special dispensation, the officer even obtained from Fort Benning the loan of regulation parachutes. They were guarded like gold dollars, locked in a safe every day after use before the camera.

"I've seen Service pictures at times," said Captain Ryder, "that contained some very funny boners. So I'm determined that when soldiers laugh at this picture, they'll laugh only in the right places."

Fort Benning, Georgia is 98,000 acres big and I understand they are adding 50,000 more on the Alabama side of the river. That, I think, will be the largest Fort in the world. It has the Infantry school there as well as other branches of the Army. Fort Benning, at present is 65,000 soldiers strong, including many selectees and regulars.

If you are single and 21 to 31 years of age and have had at least a year of Infantry training and a Private First Class, you are eligible to volunteer for Parachute Battalion. Most of the officers are West Point men and have had extensive army service. At present there are about 500 in all assigned to the Battalion. Everyone jumps, except a few of the administrative overhead, but they, too, want to be one of the gang and usually jump voluntarily. Since the Battalion's inception, collectively, over 3,000 successful parachute jumps have been made.

When the boys transfer over to the Battalion from the Infantry they are given from six to eight weeks ground training. They are drilled, given calisthenics, such as jumping from various heights, tumbling, rolling over, etc. An important factor is in landing under all conditions and naturally much stress is put upon this phase, but more important is parachute-packing. The boys roll their own. A three by forty foot table is used for packing and this is done most carefully by each man, as his packing is his life insurance.

Eventually, they take to the air first only for a ride and often times, to many of the boys, it is their first airplane experience. The next time they go aloft, they are told to jump. It is generally, the first time, at 1500 feet. They can refuse, but if asked the second time and still refuse, they automatically wash themselves out of the Battalion and return to the Infantry. Considering how young the Battalion is and the number of jumps that have been made, very few men have refused.

All precautions are taken before taking off and the men and equipment are subject to severe inspection at all times. Each man wears two 'chutes, the main one attached to his back. It is opened after leaving the ship by a trailing static line, which is fastened within the ship, thus insuring 100% efficiency in opening. The other 'chute is worn across their chest, for emergency. Occasionally this has to be used, but not often, and the jumper lands safely.

The sixth parachute jump is graduation, as a parachute jumper, and then they receive their wings and parachute pin.

Remember in warfare or any other time, the 'chute is only a means of transportation and after landing the man must be a good soldier, one with great resource and initiative, a power of taking the lead.

After graduation they continue further



Jump Masters



Ready to go up



Equipment carried



Interior of transport plane



Formation in three lines (used to be four)



Jumpers leaving planes

Oliver Sigurdson, stills (Shot with a Graflex)



Lined up for inspection



Landing



Another interior view with jump masters in foregrounnd



All down—no casualties



All out!



And so ends the day

with jumps, tests, training and drilling for the important part of their job, that is, their work in back of the enemies' lines.

Motion pictures are made from the air and from the ground, of practically every jump. High speed cameras have been of great help in picking out minute flaws and the movie camera has become an indispensable medium of visual education for all branches of the U. S. Military Service.

If you would like to enjoy the thrill of landing with a 'chute, try stepping off the top of your car, backwards, while traveling ten miles an hour.

I understand the Parachute Battalion has proven itself most successful, through all tests, and will be alloted an enlistment of 3,000 or more men.

I said, we had an outstanding assignment, thrilling and daring. In conclusion, it may be said of this pioneer battalion that they have set an example of skill, courage and sound accounting to the entire nation, all of which will be set forth in detail in RKO's "Parachute Battalion."

HAPPY LANDINGS, PARACHUTE BATTALION.

old GUARD AS EXTRAS

Not only of Napoleon's veterans can it be said that the Old Guard dies but it never surrenders. Hollywood has its gallant Old Guard too—and they came to Alfred Hitchcock's movie ball.

The famous director wanted to film a ball for a sequence in RKO Radio's "Before the Fact" which would bring together his co-stars, Cary Grant and Joan Fontaine.

"Get me the best dress extras in town," he ordered. "The best in looks and ability."

So the call went out, and the extras flocked in, for that $16.50 check each day was tempting bait.

Among them came faces once blazoned across the screens of the world, bearing proud names which used to gleam in lights on the marquees of theatres the world around.

Eva Novak. Remember her? She used to play opposite the he-men of the silent screen — Thomas Meighan, William S. Hart, Tom Mix, Jack Holt. She danced with Lou Payne, once Mrs. Leslie Carter's husband.

Dagmar Oakland was there—once glorified by Ziegfeld. And Mrs. Snitz Edwards. Lloyd Ingraham, who used to direct Mary Miles Minter. Carl Levinus and Howard Davies, former directors, too. Others: Larry Steers, who used to be the heavy in Ruth Roland serials; Frank Raymond, opera singer; Henry Hebert, who supported Myrtle Stedman and Sessue Hayakawa in "Black Roses."

There were many more. But these give the idea.

Stardom may fade, fame depart. But the players stay.

Said one: "We make out all right. It's fun to watch the game without having to struggle."







Upper left: New United States Rifle M-1, Gnrand, 30 cal., semi-automatic; right: method of wrapping rifles in blanket to drop from plane by 'chute; lower: camera crew, including Guy Newhard, Roy Hunt, Harold Wellman, Emmett Bergholz, Russ Cully, some members of Local 666, Chicago, and Civil Service cameramen working for the United States Army.

They Say---

By RELLA

● In South Carolina with the Paramount crew are Dewey Wrigley and William Skall, first cameramen; Bill Rand, second; Ed Soderberg, assistant and Richardson, still cameraman.

● A new team in the field seems to be John Alton and Harvey Gold.

● Irving Glassberg seriously studying guitar.

● Our deepest sympathy to Ernie Miller and Victor Milner in the loss of their beloved wives.

● The passing of Oliver Marsh was a severe shock to the entire industry.

● Eddie Fernandez who used to be a member of Local 659 is now official correspondent for International Photographer in Mexico City. Eddie is doing a good job in fostering good will relations.

● Lee Garmes and Hal Mohr, both Academy Award winners on the same lot, General Service Studios.

● Off to the Bahamas for Paramount Productions we find Leo Tover, whose marriage is still more or less a secret, Allen Davey and Harry Perry, first cameramen; Guy Roe, second; Sidney Zipser and John Gustafson, technicians; Junios Stout and Will Cline, assistants and Don English, stillman. The way Allen Davey travels he runs a close second to Dewey Wrigley.

● Fred Detmars back in Hollywood and proud of it.

● Mack Stengler was a chief machine gunner in World War No. 1.

● Interesting is it to note that on a recent shot at the Naval base in San Diego where Warner Bros.' "Dive Bomber" is being made, the following men were engaged in the shooting of an important scene: Winton Hoke, Duke Green, Art Arling, Charlie Marshall, Elmer Dyer, first cameramen; Cal Western, John Polito, Michael Joyce and Wally Chewning, seconds; Paul Hill, Earl Metz, Duke Callahan, Henry Imus and Al Kline, assistants; Rod Tolmie, Don Nickerson, Eddie Wade, Ken Hunter, Kay Norton and Phil O'Neil, assistants.

● In Florida for RKO are Paul Eagler, first cameraman and Johnnie Eckert, assistant.

● Leaving for El Centro for RKO for about three weeks are J. Roy Hunt, first cameraman; Ed Pyle and Jim Daly, seconds; L. Haddow and G. Wheaton, assistants.

● Lucien Ballard at Twentieth Century Fox with his ever reliable second, Lloyd Ahern.

● Wally Chewning boasting of a baby girl.

● Faxon Dean's son Kenneth is in the United States Army Air Corps. Faxon was a flyer in the first world war and was overseas seventeen months.

● Len Powers' son is a petty officer on the Battleship U. S. S. North Carolina.

● Archie Stout, first cameraman; Bill Clothier, second and Paul Cable, assistant, at Fort Bragg, North Carolina, working on a defense picture dealing with army howitzers.

● Andre Barlatier spent some time at Mt. Hood, Washington, working on background and atmosphere shots for a new Ruggles picture, Columbia release. With him were Lee Davis, second; Joe Citron, T. F. Jackson and Byron Seawright, assistants and John Jenkins, still cameraman.

● Fleet Southcott who is on the receiving end of the battery of Neumann and Southcott is a cattleman in his spare time.

● In from Ocala, Florida, are Wilford Cline, Lloyd Knectel, William Cline, A. C. Riley, Jimmie Manatt and Fred Detmars. Remaining at the location are Charlie Boyle, Ray Ramsey, Mark Davis, Rube Boyce, Al Baalas, Kenneth Mead and some of the boys of Local 666, Chicago.

● Charles ("Chuck") Geissler shooting second at Warner Bros. in the Special Effects Department.

● Dwight Warren operating television camera at the fights and baseball games.

● Our sympathy to the family of Norton C. ("Doc") Travis who passed on May 23. Doc was among the first members in Local 659.

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USING THE EXPOSURE METER

By Glen C. Anderson,
General Electric Company

In any discussion of exposure meters emphasis should be placed on the erroneous belief that by simply owning an exposure meter you will get perfect pictures. An exposure meter, when used correctly, is a means whereby perfect exposures can be made. It should be remembered that the meter is an accurate light-measuring instrument, and that correct measurements must be taken to obtain the results which will permit exposing for perfect pictures.

Photographic materials have come a long way since the development of the first sensitive emulsion, and figure 1 represents the curve as plotted of a typical film emulsion. Theoretically, a perfect film would have a line that runs diagonally, but because we do not have this film, we have to modify our exposure meters to take into account the characteristics of the films we now have to take pictures with. The film curve shown represents a typical scene as it is analyzed by the scientists in the Sensitometric Laboratory. The lower end of the curve represents the shadow portion of the film, the straight portion the contrast between the dark and light part of the picture, and the extreme end of the curve represents the highlights, or the greatest deposits of silver on the film. The curve representing the characteristics of a film is not a fixed, permanent thing, but something which is movable by means of exposure, development, and light conditions. Correct exposure combined with correct development will provide a perfect negative.

One of the immediate problems that comes up in the development of exposure meters is the correlation of this curve to exposure meters. This is done in terms of film speed or film values. One of the earliest systems of rating film was the Scheiner system, which rated the film by measuring the threshold point of the curve. (Fig. 1). There was a certain weakness to this system depending upon the position of the shape of the toe and chemical fog. This threshold point was measured by the film manufacturers, and in order to have the best possible product the most favorable value was used. The results were not too reliable as a film speed value. Later, an approach was made by the German Government, to more firmly establish the location of the measurement of the threshold point (Fig. 2) of the film. What is known as the DIN system resulted, wherein the film speed was dependent on the exposure required to produce a density of .1, but the methods of this system did not specify an exact developing technique. Since a change in developer can cause a modification in the curve of this line, this system is weak. In the first part of the twentieth century in England, Messrs. Hurter and Driffield did considerable research on photographic emulsion and sensitivity, and the findings made by them have given this curve a name: the H and D curve (Fig. 1). These gentlemen decided that a more reliable means of measuring film speeds involved the determination of the inertia point (Fig. 2). This particular system has merit, and for the films, then existing, was the best possible solution for determining speeds. The system is one of the most common in use in this country today. Film manufacturers, however, in the development of the new high speed film, created emulsion with long toe portions (Fig. 3) rather than abrupt characteristics. These negative materials had H and D curves with a long curved toe portion, with a gradually curved shoulder, and with scarcely any straight line portion in some cases. We, therefore, have a condition where there is no straight line portion to measure. Another disadvantage is that occasionally the straight line portion of a fast film is exactly the same as that of a slower film, thus this system would give no indication of the actual film speed. Therefore, in the development of the General Electric film rating system we have made a compensation of the toe portion and the straight line portion of the curve and assigned proper film values. It is to be remembered that film values are assigned to films under laboratory conditions for average results. Individuals may and do vary film ratings, because of personal preferences for a specific density of negatives. It can therefore, be said that the exposure meter is an accurate light measuring instrument, and the film values that are assigned can be modified within the range allowable in order to produce a negative that most suits your needs. Also, an enlarger, that has condensing lenses in it can use a negative of less contrast than an enlarger of the different type of illumination system.

Theoretically, the perfect exposure has the shadow portion at the lower end of the curve, and the high light at the upper end of the curve. Under certain specific conditions it is impossible to get such a range of light on the film because the intensity of light is beyond its range. Average photographic emulsions can record a brightness range of 128 to 1. In some cases the brightness range is considerably higher than this, but for most exterior scenes it is in the neighborhood of 40 or 50 to 1. With this type of lighting being the general condition we do have some leeway in the placement of our exposure on our photographic emulsion. Many benefits will be derived from correct exposure and best results will result when the maximum film value is used.

An over-exposure will cause:

1. Larger grain on the film.
2. Loss of detail in highlights.
3. Contrast loss.
4. A flat type of negative.
5. Need for long printing time.
6. Reddish hue in color films.

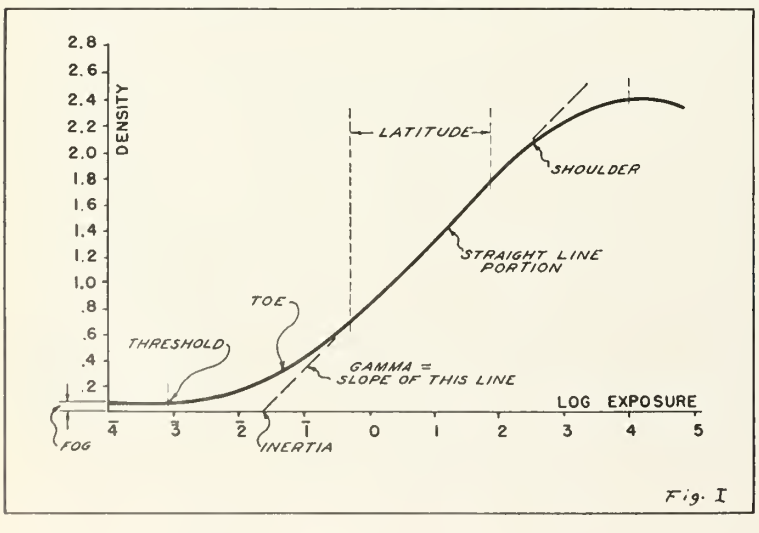


Fig. I

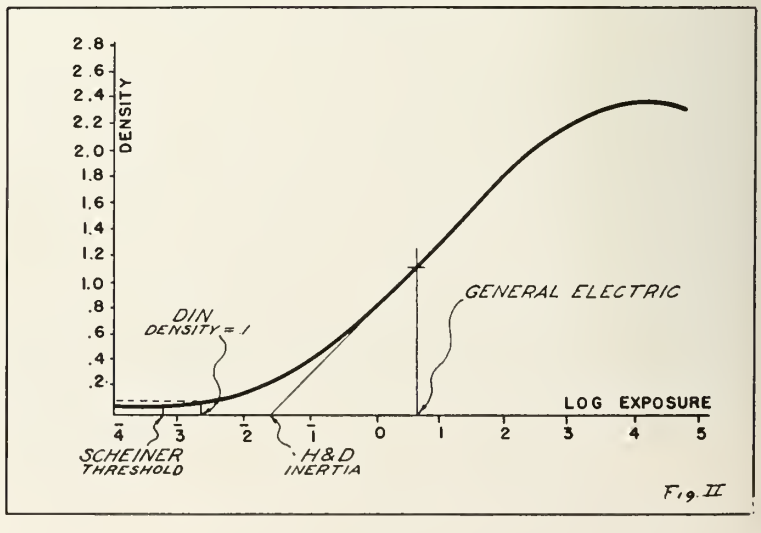


Fig. II

Under-exposure will cause:

1. Loss of full scale of tone.
2. Loss of detail in shadows.
3. Too high a contrast in negative.
4. Too thin a negative for good print quality.
5. Blueish hue in color film.

Correct exposure results in:

1. Film of finer grain.
2. Better definition in the highlights.
3. Better detail in the shadows.
4. Sharper definition.
5. Greater depth of focus.

It is often said by many photographers, especially experienced men—"I don't need an exposure meter because I get good results without one." The human eye is an extremely poor light-measuring device at its best. Tests indicate that the eye cannot detect less than a 30% change in light. When reduced in terms of light, this represents a change in exposure of one-half an F stop. And on films with narrow ranges of latitude, this is quite a noticeable difference in the quality of the negatives. It is also extremely difficult for the eye to correlate the proper combination of modern high film speed, the F stop and shutter speed by looking at the light conditions. A bright, blue, clear day may be perfectly comfortable to your eye, and the exposure meter will show that intensity of light registers hundreds of candles per square foot brightness. Under other conditions, such as a hazy day, you may be squinting at scenery extremely brilliant but the exposure meter will indicate a lower brightness level of the object, and call for a longer exposure. Haze and appearance of the atmosphere causes this appearance brightness but it is not the kind of brilliance that affects the photographic emulsion. Also, in photoflood interior lighting, you seem to have an extremely brilliant illumination, yet when measured with an exposure meter, it shows but a few candles per square foot brightness, which is an extremely low level of illumination. Although the human eye has the ability to see from a mere fraction of a foot-candle, such as a moonlight night, to the brightest beach or snow conditions, it cannot be depended upon for the accurate measurement essential to good photographic results.

It is helpful to know how an exposure meter is built, to obtain the best possible results from it. The G-E meter has been carefully designed to give the best results for all photographic light measurements. The photoelectric cell is made of an iron plate coated with selenium. The selenium is covered with a transparent layer of precious metal which allows light to go through to affect the selenium, which converts the light into electrical energy. The photoelectric cell is an extremely interesting generator, complex in manufacture, and how it works is a mystery to our best engineers. The perfection of the present-day photoelectric cell is a result of many years of development. It has a wider range of color sensitivity (see Fig. 1), is stable, and possesses an almost indefiinite life. Tests made in our laboratory since 1932 on cells indicate a very slight loss of efficiency. (Fig. 5) In our life light test, cells are placed under a laboratory skylight and are exposed to the full intensity of the sun every day of the year. If we figure rather liberally that normal use is about one hour per day, a year's laboratory exposure represents a life of 24 years for the cell.

The photoelectric cell is coated with transparent lacquer before it is sealed in its case. Current is taken off of the cell through silver contacts and flows into a standard electrical instrument. This consists of a large strong magnet, with a coil of thin wire placed in its magnetic field.

(Continued on page 28)

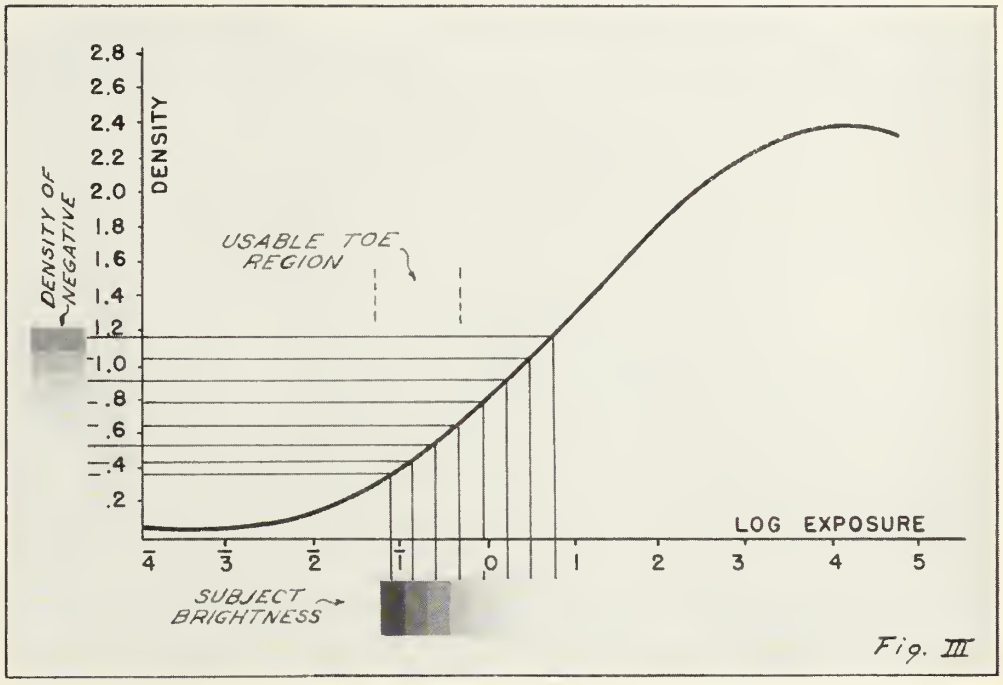


Fig. III

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WHAT SHOULDN'T I DO? (II)

Continuing along on the premise that it is frequently more constructive to lay down rules of what *not* to do than what should be done, as we started doing last month, we come to a problem that has caused more ruined pictures in itself than many other problems combined. DON'T SHOOT A SCENE IN WHICH AN *UNBALANCED* LIGHT CONDITION PREVAILS. UNLESS SOME SORT OF CORRECTION IS INTRODUCED.

Many amateurs have come to us with scenes—long shots and close-ups, both—where part of the picture would be "washed out" and part of it almost black. If not completely black. And want to know why it looked that way, and what they should have done to correct the situation, or what they shouldn't have done.

To give a little clearer understanding of the mechanics of the problem, let us take the old stand-by, the human eye. When we are walking down a street where the sunlight is occasionally shaded by objects, and look at a person walking alongside as he passes from the sunlight to the shadow, we do *not* have the sensation of losing all the detail of his features when he is in the sunlight, and then finding him so dark that we cannot see him when he is in the shadow. Instead, the iris of the eye, acting as the diaphragm of a lens on a camera, closes down and lets less light into the eye when he is in the sunlight, and then opens up and permits more light to enter when he is in the shadow. When the eye perceives a large area that is partially in the bright sunlight and partially in the shade, then the iris will "compromise" and permit more light to enter than is necessary for the bright objects and give the shadows a chance to register, even though there still isn't enough light admitted from the shadows to permit *really good* vision. The result is that the brightly lighted objects will appear brighter to the eye, and those in the shade darker than they would if they were viewed individually. If the shade predominates the iris will give it preference, and we'll be able to see objects here more easily; but if sunlight predominates, then it will actually be difficult to see things in the shade, because of the fact that large amounts of light will cause the iris to react and close down.

It is possible to do the same thing with a camera, except that we are a little more limited. In the eye, when we look directly towards a certain object or scene the construction of the retina of the eye will overcome the effects of very great inequalities by virtue of the fact that a large part of the retina is covered by a coating that retards clear vision, this coating being absent in the center of the retina directly behind the eyeball, permitting perfectly clear vision here and the ability for the eye to concentrate on an object. The camera differs in this respect in that it records *the entire scene* as the eye would see it *without the protective covering.* This is the first contributing factor to the "unnaturalness" of the unbalanced picture. The next, and perhaps even more important factor, is the *mechanical* limitations of the physio-chemical characteristics of an emulsion.

When a film has been given a normal amount of development there is a "normal" range of exposures for that film that will result in "normal" densities. In other words, if there are objects in the scene that will reflect varying amounts of light to the camera, causing varying amounts of exposure on different parts of the film, if the light these objects reflect is of the amount to cause a "normal" exposure on the film, then these variations will produce *proportionate* variations in the densities produced in the emulsion. When the exposures fall below or go above this normal range the emulsion reacts *abnormally.* The variations in light and shade produced by the objects in the scene will *not* produce proportionate variations in light and shade on the film, this being due to the physio-chemical characteristics all films possess.

In addition to this we have another factor contributing to the failure of a scene photographed without consideration for a balanced light condition. Let's assume that we have met the requirements to a degree by staying within the limits of a "normal" range of exposures, but that we go to the extremes of these limits. Such a condition could obtain where the extreme highlights and extreme shadows were not sufficiently great in nature to bring about a disproportionate response in density on the developed film. We would then be faced with the difficulty of printing such a scene because a printing light sufficiently strong to penetrate the heavy silver deposit of the negative and give a normal exposure to the positive would be too strong for the shadows, and would make them too dark, even though they would be of correct contrast because of the proportionate variation response. A light low enough in value to give the correct printing exposure to the shadows would be too weak to penetrate the highlights to give them a normal exposure on the print. Fortunately, however, this latter difficulty does not concern reversal film for obvious reasons. But their effects are not entirely absent because the range of "normal" exposures is so much smaller on reversal film than that of a negative film.

There are several ways to deal with a situation of this sort. In all of them a "compromise" must be effected in exposing the two extremes, the same as the eye does. The easiest and most logical one is to pick an angle that will minimize the inequality of the light condition. Assuming that we are shooting in sunlight—where we are most apt to encounter a condition of this nature—we will find that if the sun is directly behind us the shadows will fall *behind* the objects we are photographing, and the camera will see little of them. This, however, will tend to make the scene look flat due to the absence of shadows. At the other extreme, shooting the scene with the sun coming towards us, we will have a picture where the shadows will occupy as prominent a place as the objects themselves. By compromising, and picking an angle where these shadows are *there*, but by virtue of the camera position are not of such magnitude or prominence as to constitute a major part of the scene, dealing with them then is no problem.

There are times, however, when this is impossible, or when action is taking place in both the shadows and in the sunlit areas, and we want to photograph them both. Here the compromise becomes most important, and that area in which the most important action is taking place is favored most. If the sky has a light haze it will act as a reflector, and will "fill in" the shadows sufficiently to give a good light balance—if enough open sky, or open water, is present. Sand on beaches is an excellent reflector, as are white or light colored buildings. If the sky is a deep blue, a blue filter will help, by holding back the large amounts of red and yellows present in the sunlight and giving the blue of the sky a chance to build up in the shadows. Neutral density filters are of help where a glare exists.

Much better, though, is the use of some means of throwing light into the dark areas artificially, using either reflectors made for the purpose, or lights. This means is useful only where relatively small areas are being photographed. It is usually in these small areas where the natural reflections of haze, clouds, sand, or water cannot be used to practical advantage. And the large ones cannot be artificially illuminated in a practical manner by an amateur because of the large equipment requirements. When none of these corrections can be introduced for one reason or another, and the scene has great extremes in values of light distribution, there is only one thing to do to prevent a photographic failure. And that is not to shoot it.

We have laid down a photographic rule. That does *not* mean that under *no* circumstances should an unbalanced light condition *ever* be photographed. When one reaches that state of proficiency where he can determine *beforehand* what the exact result on the screen will be and can deal with the situation accordingly to achieve a technically perfect negative, a situation with an unbalanced light condition that would result in a photographic failure for an average person can be turned into a scene that will heighten the dramatic effect desired to create. It is one of the rules that must be broken by experts.

TELEVISION

TELEVISION GETS THE "GO" SIGNAL!

To Make Commercial Debut July 1

By Duster Evans

While an abundance of startling news has been coming out of the Nation's Capitol recently, none has been more welcome to some than the Federal Communications Commission's approval of the commercial broadcast of Television, starting July 1.

All of which means that Television has been authorized to start selling its programs to sponsors. And experts agree that when this takes place, it won't be so very long before Television's magic should be reaching out into many homes.

The Commission has adopted a set of operating standards that makes possible the highest level of Television performance within present developments. These standards fix the line frequencies at 525—making possible greater detail in a Television picture, than under the 441 line system recommended a year ago. This change will also be helpful in view of the trend to larger screens.

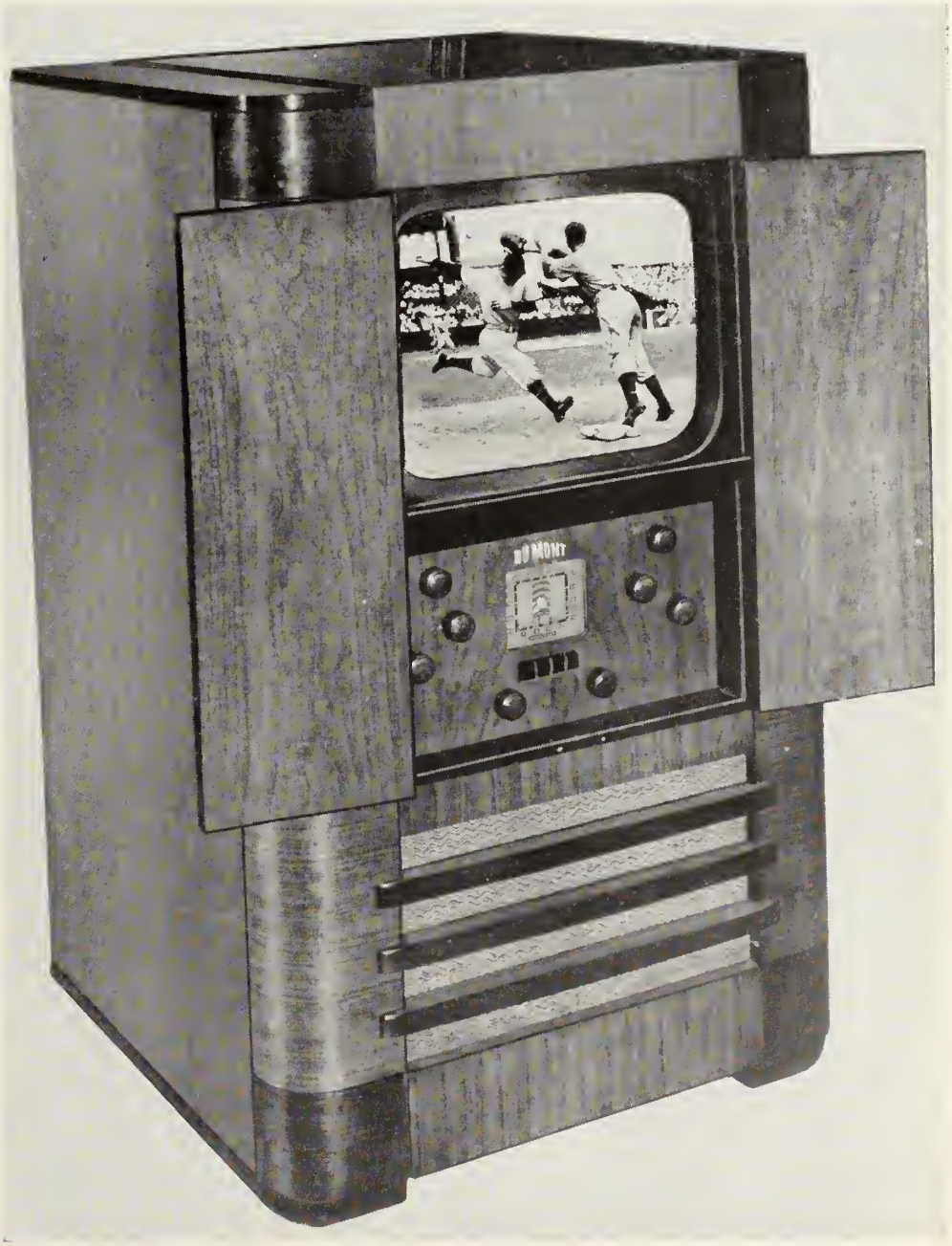
The recent birth of Frequency Modulation in the Radio world has no doubt proved a timely, fitting stimulus to Television's coming-out party. Frequency Modulation's almost staticless, pure tone is being used to accompany the flickerless pictures. The Television public is therefore in for a double-feature treat in the realms of sight and sound.

But Television, itself, has not been sitting tight these recent months. A startling development has taken place. Color Television has rapidly become a reality. A Television screen can now be flooded with the hues of the rainbow. Colorful objects "televised" by means of this new system take on a life-like realism. Like color movies, a Television picture in color assumes a three-dimension effect. Perhaps no other recent event in Television's progress will so enhance Television's appeal to the buying public.

And the good news from the Television front these days is not confined solely to experimental stations at Washington. Some of the country's outstanding merchandisers are placing confidence in the future of Television to the tune of a plan for possibly a ten-million-dollar order for Television receivers. Foreseeing the tremendous possibilities of merchandising products on Television's silvery screen, a survey of Television broadcast facilities is being conducted by a large department store chain. Upon this may rest an order for fifty thousand Television receivers.

RCA. it is also reported, is now proceeding to interest theater operators in their new, Wide-Screen Television System designed for theater use. Experimental shows on a 15 by 20 foot screen have gained much favorable comment. It seems to be almost a foregone conclusion that in the next few years, some of the large theaters will be installing Television projectors. Some are already showing an active interest. As an example of the "eye for the future" comes the news that Balaban and Katz have been authorized to erect another experimental station in Chicago.

Certainly, there has been no marking time in Television. Technically, it is ready! The government has now given its ap-



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proval for commercial operation! The future appears bright! We cannot help but think, too, that Uncle Sam must feel there are real and important possibilities ahead of Television. He has given this new industry the "green light" while other industries are concentrating on one of the greatest industrial efforts in our history, producing military equipment.

An interesting sidelight on Television is found in the military world. Even last Fall, during the huge war games in northern New York, camouflaged portable Television equipment was used to flash back strategic scenes to "Company Headquarters." Army officials exhibited great interest in the success of the experiment. There are predictions that Television may play an important role in military activity of the future. Television's big brother, Radio, is already an essential factor to military success.

In the past, new industries have provided this country with a fertile, new field for opportunity—the opportunity to work—to grow—to advance as the industry advances. And now comes Television!

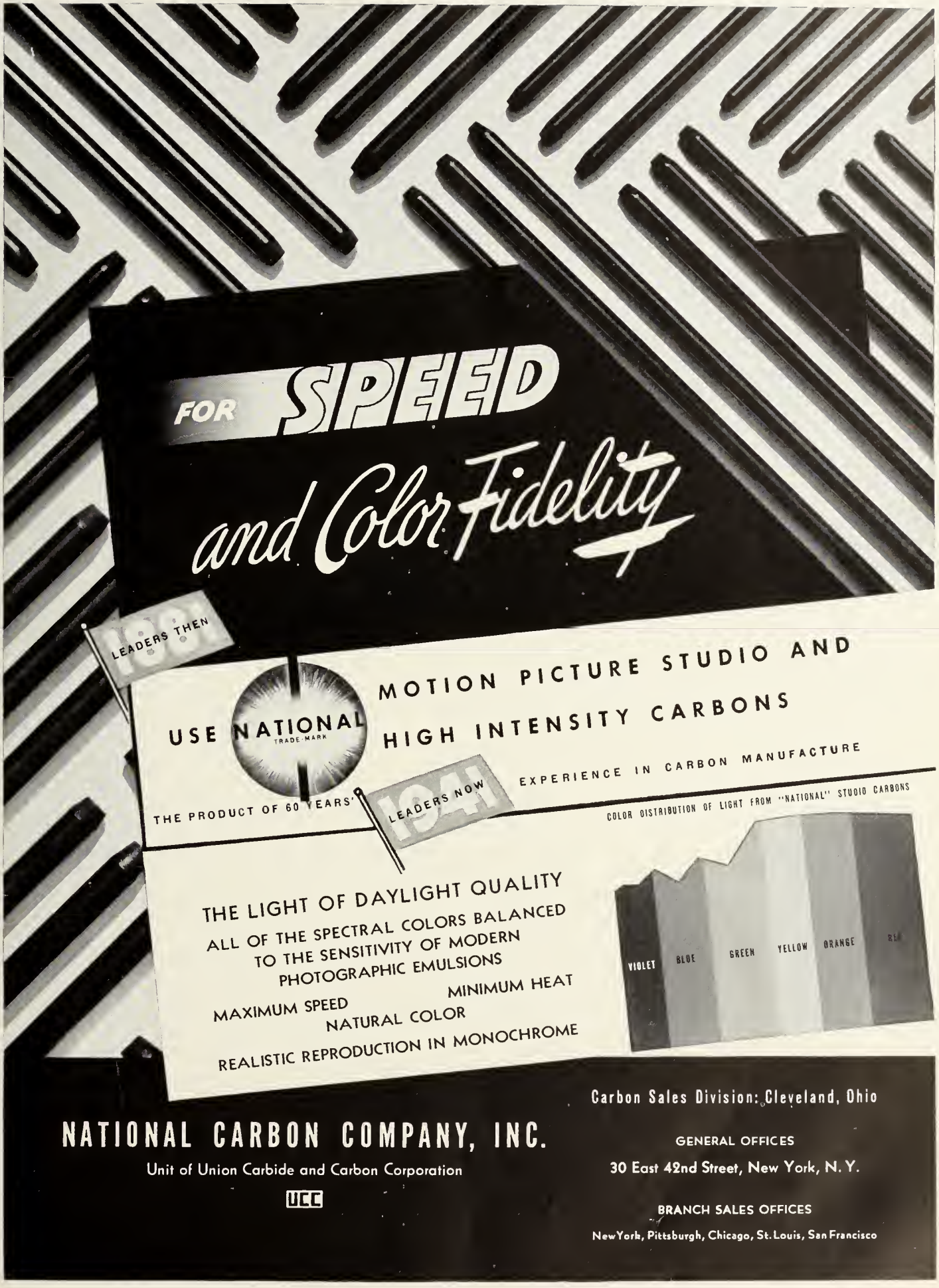
Men will soon be needed in Television studios, control rooms, transmitting stations. They will be needed to build, inspect, sell, install and service Television receivers. They will be needed out in the field to operate Television cameras and related equipment—"picking up" news as it is happening. But this fascinating new field is a technical one. Most of the future opportunities will be for men who "know how"—trained men. Certainly, this new industry of Television should be investigated by any ambitious young man wondering how he may benefit himself in the years ahead.

The commercial authorization of Television for July 1 is one of the bright spots on the horizon; new industries have helped to make America great! And to what proportion may this new Television industry go? The future, alone, can tell. But from what experts tell us, we would not go far amiss by saying that Television seems destined, before very long, to become another familiar but sparkling design in the life pattern of Mr. and Mrs. Average American.

To any of our readers interested in entering the field of radio, television or sound pictures, the writer of the above article will be glad to supply information if you address him care of INTERNATIONAL PHOTOGRAPHER.

WARNERS HAS SOUND TRACK OF AIR RAID

The only sound track in America of a London air raid has arrived at Warner Bros. studio. The track, obtained by Warner technicians at the Teddington Studios in England, was sent here to be used for scenes depicting the bombing of London in "The Flight Patrol," story of the international volunteers in the R.A.F., featuring Ronald Reagan and James Stephenson.


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PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,236,767—Means for Slating and Synchronizing in Motion Pictures. *Percy Tinson*. Westwood, Calif. Appln. Sept. 7, 1937. 7 claims.

A motion picture camera having a framing aperture, with an indicia carrying member which may swing to and from a position covering the aperture.

No. 2,236,878—Actuating and Adjusting Means for a Film Gate Assembly. *Albert Kindelman*, assignor to International Projector Corp., New York. Appln. Aug. 5, 1938. 14 claims.

A motion picture camera having a film gate assembly mounted on a rod and which may be moved longitudinally of the rod.

No. 2,238,114 — Portable Talking Motion Picture Apparatus. *Harold C. Holden*, assignor to Radio Corp. of America. Original appln. June 21, 1935, which is division of appln. Feb. 12, 1932. Divided and this application April 12, 1938.

A film gate for motion picture apparatus which has a spring pressed shoe at one end of an aperture gate, urged toward the gate but stopping farther away than the thickness of the film, and a second spring pressed shoe at the other edge of the film and pressing the film against the gate.

No. 2,238,159—Device for Preventing Overheating in Cinema Projection Apparatus. *Agostino D. Derossi*, Italy, assignor to Soc. An. Microtecnica, Turin, Italy. Appln. May 9, 1939. In Italy May 14, 1938. 1 claim.

A screening device between the light source and the film of a projector and having a liquid filled housing intercepting all of the light not going to the film, to prevent overheating.

No. 2,238,365 — Light-Reflecting and Sound-Transmitting Screen. *Albert B. Hurley*, Huntington, N. Y. Appln. Nov. 20, 1937. 6 claims.

A light-reflecting sound-transmitting screen having a highly perforated base material permanently attached to a base, and a paper light-reflecting surface having perforations for sound transmission, and adhesively secured so it may be replaced when dirty.

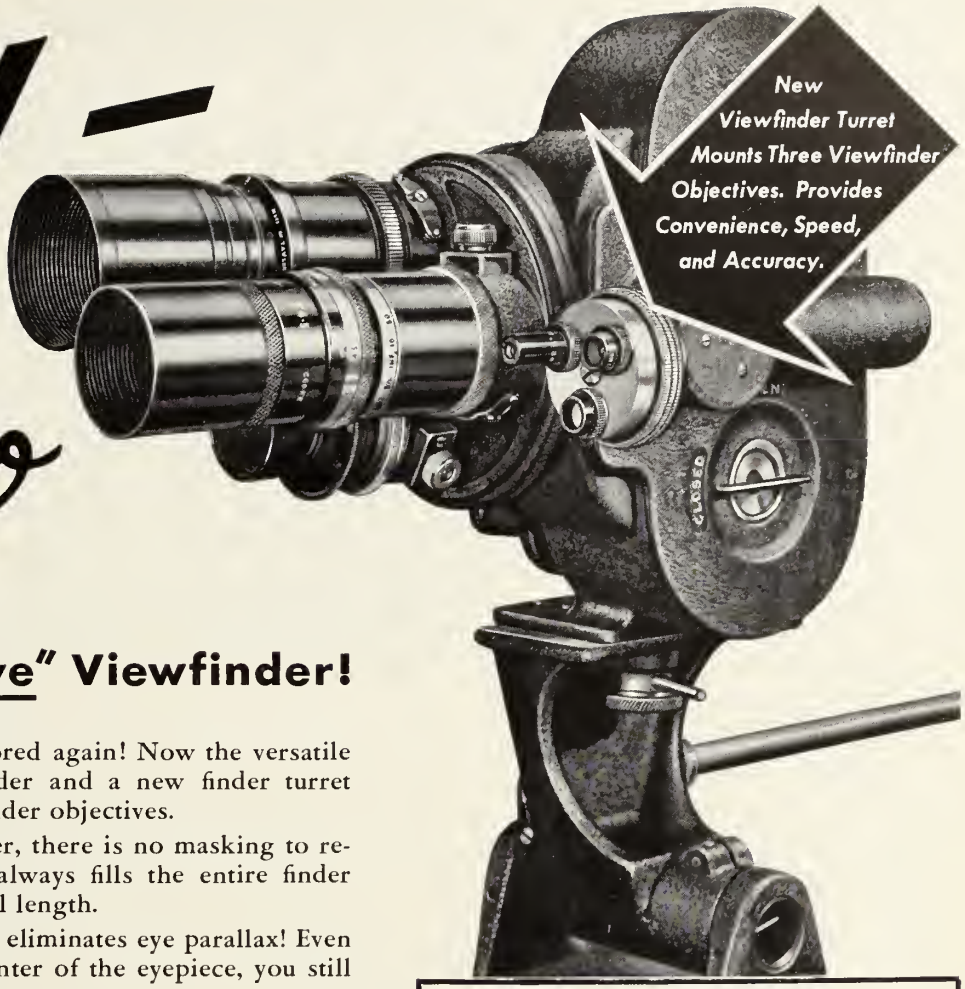
No. 2,238,195 — Method of Coloring Photography. *Leopold D. Mannes and Leopold Godowsky, Jr.*, assignors to Eastman Kodak Company. Appln. April 12, 1940. In great Britain May 10, 1939. 6 claims.

A method of producing colored pictures by exposing a special film, immersing it in an acid solution of an aromatic amino developing agent, and then subjecting it to alkaline vapors to form a colored image.



Arthur W. Say of Local 683 caught this candid shot of Ernest Bachrach talking with enthusiastic amateur photographers at the recent Salon of the Still Photographers of the Motion Picture Studios. Virginia Vale in foreground.

NOW — THE VERSATILE *Eyemo*



Has a New "Positive" Viewfinder!

BELL & HOWELL engineers have scored again! Now the versatile Eyemo has a "positive" viewfinder and a new finder turret which mounts three matching viewfinder objectives.

With this new "positive" viewfinder, there is no masking to reduce the field. A large-size image always fills the entire finder aperture . . . for all lenses of any focal length.

In addition, this new Eyemo finder eliminates eye parallax! Even when your eye wanders from the center of the eyepiece, you still see the EXACT field to be filmed!

Add the advantage of having three matching finder objectives on a turret for instant readiness, and you begin to know why now, more than ever, the Eyemo is unsurpassed in the field of portable cameras. For no other camera offers the versatility and dependability of the Eyemo. For information about this superb 35 mm. camera, please mail coupon. Bell & Howell Company, 1848 Larchmont Ave., Chicago; 30 Rockefeller Plaza, New York; 716 N. LaBrea Ave., Hollywood; 1221 G St., N. W. Washington, D. C.; 13-14 Great Castle Street, London. *Estab. 1907.*



EYEMO can be equipped with 400-foot external magazine, offset turret, electric drive, and other studio accessories, or it can be stripped down to a light, compact, spring-driven hand camera.

Other Recent Eyemo Improvements

Important! Many Eyemo owners are converting their cameras to include these changes. Conversion charges are reasonable. Write for details.

NEW FLAT BASE—2½" square, with dowel holes, gives perfect seating on any flathead tripod.

LENS MOUNT LOCKING SCREWS lock each lens *in focus!*

TURRET LOCK for Eyemos with offset turret assures alignment even with long, heavy lenses.

DETACHABLE CORD now supplied with electric-drive models.

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( ) Send details about new, improved Eyemos.
( ) I own Eyemo Serial No..... Am interested in converting it to include.....
.....
Name .....
Address .....
City.....*State*.....

Mexico's Festival

(Continued from page 5)

in Spanish, even if they are just "Please get back."

Another thing of interest to me was the equipment used by the Mexican photographers who still resort to the old flash pans and powders.

One of our Mexican brother cameramen became my shadow. I found him right at my side everytime I turned around. With gestures I would try to convey the idea that I would appreciate his moving back until I got the shot and with even more courteous gestures he would smile and move in closer. At a crowded reception in the office of Mayor Rojo Gomez, while everyone was listening attentively to the speaker, my Mexican brother "shot his flash" about three feet away from David O. Selznick's head, causing Mr. Selznick to jump. I have since wondered if Mr. Selznick had his mind wholly on the good will tour during that moment. I glanced toward my Mexican friend who showed no surprise and was smiling as usual. I still think Mr. Selznick thought that I did it, for he gave me a very accusing look.

Although the Mexican cameraman's equipment is very obsolete I must say, having seen some of their work, that they turn out very fine results. With up-to-date equipment I feel sure they would offer us keen competition.

To Mr. Jock Lawrence and the Producers' Association I wish to extend my thanks for the privilege of playing my small part in this undertaking which I believe will prove historical to the motion picture industry.

CONGRATULATIONS, "ED" DE VRY!



E. B. De Vry

Time — the dictator supreme. Changes come. New faces . . . new names greet our eyes. And the field of sound motion pictures and Electronics is no exception. Meet Edward B. DeVry, son of Mr. H. A. DeVry, whose sudden death recently removed one of the true pioneers from the motion picture field.

Edward, better known as "Ed" to most of his acquaintances, steps into his father's shoes not only as an officer of the DeVry Corporation — manufacturers of sound motion picture equipment — but also as President of an affiliated organization known as DeForest's Training.

But if the senior Mr. DeVry were alive today, he would probably say, "Don't congratulate Ed yet! Wait a few years. Then if he has proved worthy of your congratulations, fine!" But as Ed has all the ear-marks of his father's qualities, we feel perfectly safe in congratulating him now.

After completing his schooling, Ed quickly plunged into the business world, and for the past number of years has worked closely with his father. He's a natural executive — and one who now has nearly 15 years of business experience behind him.

Ed's presidency of DeForest's Training focuses particular attention on this modern, industrial training program. Founded by the late H. A. DeVry, DeForest's Training is providing a reliable means for numerous young men to get started toward a successful career in the field of Radio, Television, Sound Motion Pictures and other related branches of Electronics.

One of the features of the training is the prominent use of "Visual Education." In addition to the use of loose-leaf material, each man is loaned a motion picture projector and film to be used in his own home. Further, he has the privilege of attending the organization's laboratories in Chicago for two weeks of practical training on actual commercial equipment. And that's not all!

DeForest's Training recently added a new, practical step to its program. Each member is now furnished with a wide assortment of Electronic equipment so that he can enjoy the benefits of a laboratory right in his own home. This equipment permits a young man to work out from 75 to 100 fascinating experiments — giving him valuable practical experience.

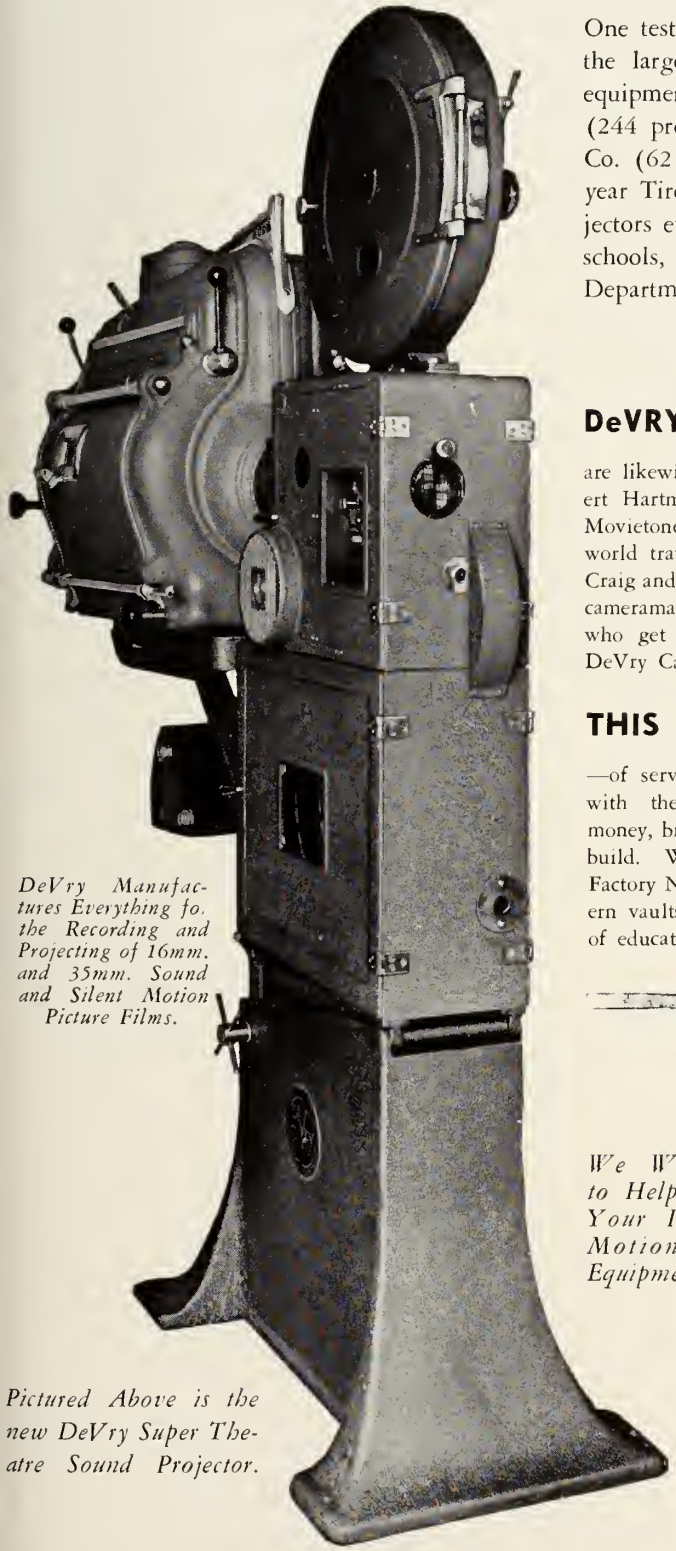
The late H. A. DeVry took great pride in the efficient job being done by DeForest's Training. He had an eye for the future, too, when he insisted that his son, Edward, learn the business the hard way —from the bottom up. His foresight is now bearing fruit.

Today this organization continues to function smoothly, with scarcely a ripple on the outer surface to show the torch has been handed on to another to carry. Certainly, any organization or individual possessed with the vision, character and ideals of that pioneer maker of movie equipment, the late Mr. DeVry, is established upon a foundaion of bed-rock. Such an organization can look to the future with the confidence born of preparedness. Such an organization should long endure.



Left to right: Desi Arnaz, Sabu, Kay Proctor, Brenda Marshall and Lucille Ball at airport in Mazatlan. *(Wallace)*

The World's Largest and Finest Line of Motion Picture Sound Equipment



DeVry Manufactures Everything fo. the Recording and Projecting of 16mm. and 35mm. Sound and Silent Motion Picture Films.

Pictured Above is the new DeVry Super Theatre Sound Projector.

One test of the quality of any product is the type of people buying it. Many of the largest industrial firms of America have purchased DeVry motion picture equipment to project their valuable films. Among these are the Ford Motor Co. (244 projectors), Firestone Tire and Rubber Co. (60 projectors), Standard Oil Co. (62 projectors), International Harvester Co. (183 projectors) and the Goodyear Tire and Rubber Co. (2700 projectors, the largest industrial order for projectors ever awarded). DeVry equipment will likewise be found in thousands of schools, colleges, churches, theatres, clubs, institutions and various Governmental Departments throughout the United States and in over 68 foreign countries.

DeVRY MOVIE CAMERAS

are likewise proving their ability. Robert Hartmann, ace cameraman for Fox Movietone, Harrison Foreman, famous world traveler and lecturer, Capt. John Craig and Norman Alley, the best known cameraman in the world, are just a few who get their pictures everytime with DeVry Cameras.

THIS IS OUR 28th YEAR

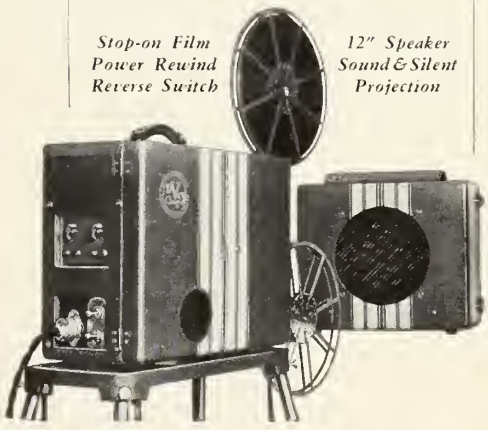
—of serving the motion picture world with the very best equipment that money, brains and good engineering can build. We have just recently added Factory Number 3, which includes modern vaults to house over 3,000,000 feet of educational film negative.

THE NEW LOW-PRICED "Q-R-12"

DeVry's newest portable 16mm. sound projector. Smart, modern styling of twin airplane luggage cases; many other features for economy and efficiency including:

Stop-on Film
Power Rewind
Reverse Switch

12" Speaker
Sound & Silent
Projection



We Would Like to Help You Fill Your Important Motion Picture Equipment Needs.

JACK BENNY

Popular Radio and Screen Star Who Has Dual DeVry 35mm. Sound Projectors in His Hollywood Home.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Many Other Oustanding Stars in the Movie World Likewise Have DeVry 16 mm. or 35mm. Projectors in Their Homes.



Distributors in Principal Cities throughout the world.

Branch offices in Hollywood and New York City.

DeVRY CORPORATION **1111 Armitage Ave., CHICAGO**

EXPOSURE METER

(Continued from page 19)

The coil is held in place by an armature shaft of hardened steel tapered at each end to a point much finer than a needle. The shaft is mounted in sapphire jewel bearings vertically, which minimizes friction. Two small torque springs mounted near each end of the shaft oppose the coil as it tends to turn in the magnetic field created by the strong permanent magnet. Thus, the more light falling on the cell the more current, and the higher the quantity indicated by the pointer. The precision and quality is such that the instrument can be calibrated and guaranteed to have a full scale accuracy of within 2%.

The cell and the instrument are mounted in a special case, designed to absorb shocks and sealed against moisture. The scale plate is calibrated in foot-candles, the standard light measuring unit in the United States. This makes it a simple matter to check the accuracy of the instrument with any standard light power. One camera user went so far as to mount five ordinary candles one foot away from his General Electric exposure meter and observe that it indicated five foot-candles. This is not an accurate checking method because the standard candle has certain specifications: It must be of a certain size with a certain size wick, certain length of wick, and burn a certain amount of wax in a certain specified period.

(Concluded in July issue)

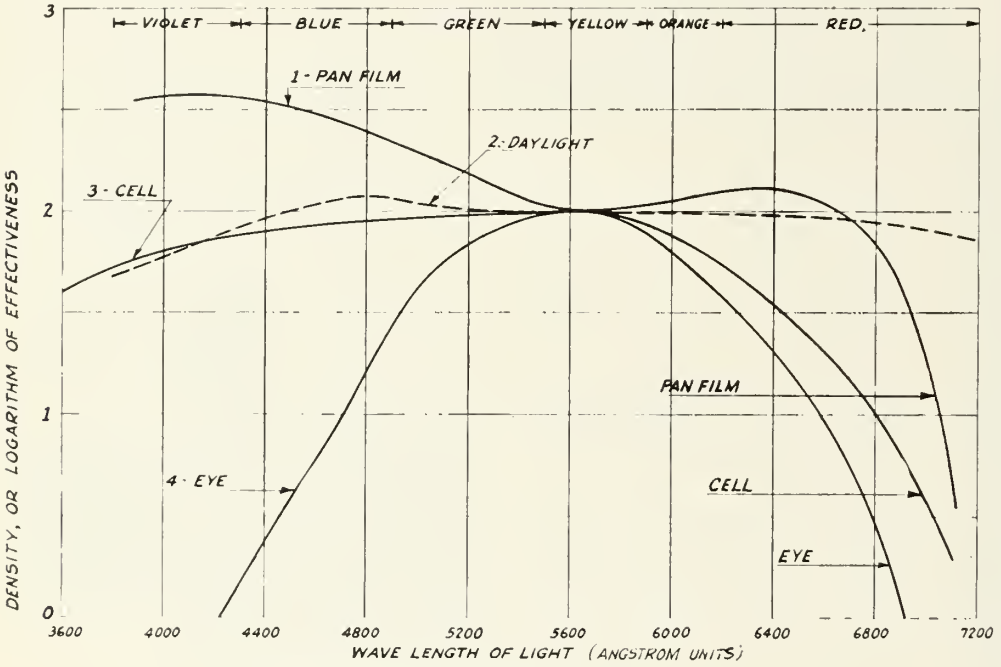
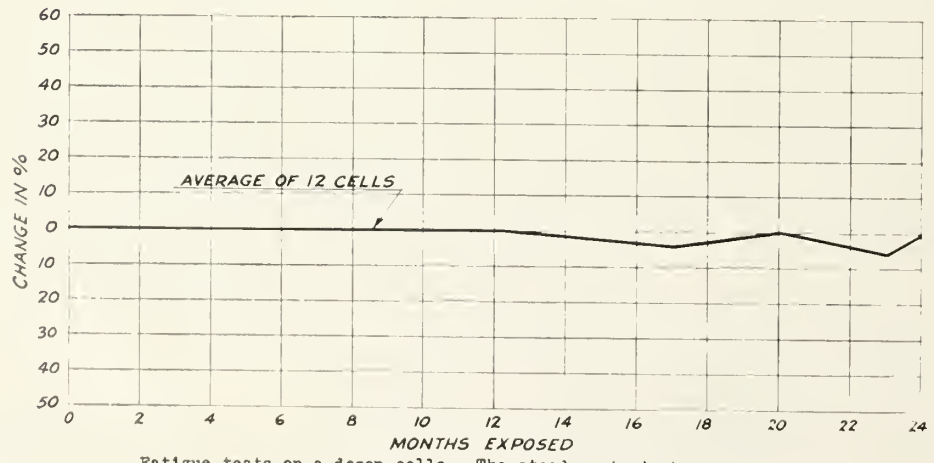


FIG. 4 CURVE CLASSIFICATIONS

1.- RELATIVE DENSITY PRODUCED BY VARIOUS WAVE LENGTHS OF LIGHT.
2.- RELATIVE PROPORTIONS (LOGARITHMIC AS SEEN BY FILM) OF VARIOUS WAVE LENGTHS IN DAYLIGHT.
3.- " EFFECT " " " " " " " " " " ON CELL.
4.- " " " " " " " " " " " " ON EYE.

FIG. 5

PERFORMANCE OF CELLS EXPOSED TO BRIGHT DAYLIGHT (PLACED DIRECTLY BELOW A SKYLIGHT) NOT PROTECTED BY HOOD OR MULTIPLIER.



Fatigue tests on a dozen cells. The steady output shown assures continuous accuracy of the exposure meter as any aging of the electrical element is negligible.

GENERAL ELECTRIC MIDGET PHOTOFLASH LAMP, NO. 6

A new tiny focal plane photoflash lamp —same size as GE's mighty midget No. 5 and the recently introduced speed midget (SM)—has just been announced by General Electric's lamp department at Nela Park, Cleveland.

Full name given to this latest midget flash bulb is G-E Mazda Focal Plane Photoflash Lamp, No. 6. It has a list price of 15 cents.

Outstanding features and essential technical data of the new "No. SIX" are as follows: A B11 bulk filled with shredded foil; a single contact bayonet base; light output rated at 16,000 to 18,000 lumen seconds; and, 500,000 peak lumens.

As in the case of the other two G-E midget photoflash lamps, the new No. 6 permits use of smaller and more efficient reflectors than has been possible with the larger Mazda photoflash lamps. Timelight characteristics of the new lamp's flash are such that it may take the place of the present focal plane flash bulb No. 31 in many cases.

The flash of the new lamp has an effective duration of approximately 0.030 second. Accordingly, the lamp may be synchronized with the great majority of focal plane cameras in use up to and including the 2¼ x 3¼ size. For best results some small focal plane cameras may require the longer flash duration of Photoflash lamp No. 31. Employed in an efficient, well-designed reflector, (the same as used with No. 5 and Type SM photoflash lamps) the new No. 6 lamp gives an exposure approaching that obtained with larger focal plane photoflash lamps.

Development of the focal plane No. 6 permits photographers to "virtually hold in the palm of one hand" a trio of midget G-E flash bulbs, simplified ammunition designed to satisfy the countless needs of the growing army of flash photographers and the wide assortment of equipment used in shooting pictures.

CLASSIFIED

LARGE QUANTITY OF PROFESSIONAL CAMERAS AVAILABLE. WRITE FOR BARGAIN BOOKLET. BURKE & JAMES, INC., 223 W. MADISON ST., CHICAGO, ILL.

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1600 Broadway New York City
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MITCHELL NC 112. LIKE NEW. Up to the minute. B. B. RAY, 300 W. Durante Road, Arcadia, Calif.

FOR SALE: AKELEY CAMERA, like new, No. 258, with roller pressure plate, new tripod and legs, all new gyro gears, six magazines, 35 mm. F 2:3 matched pan astro lenses, 50 mm. F 2:3 matched pan astro lenses, 100 mm. F 3:5 matched Carl Zeiss lenses, 12-inch F 5:6 Dahl Meyer Telephoto lens. All equipment in cases. 230 and 180 degree interchangeable shutters. Ten metal filter holders in case. Sacrifice $900. MERVYN FREEMAN, 12041 ADDISON ST., NORTH HOLLYWOOD, CALIF.

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"CITIZEN KANE"

A Mercury Production

RKO—Radio Release

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Director of Photography

BERT SHIPHAM, Operative Cameraman

EDDIE GARVIN, Assistant Cameraman

Negative Processing and Dailies by

CONSOLIDATED FILM INDUSTRIES, Hollywood

Eastman *fine-grain* Release Prints by

DE LUXE LABORATORIES, New York

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BRULATOUR SERVICE

BEHIND THE SCENES

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International PHOTOGRAPHER

July, 1941

25 CENTS





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Du Pont Fine Grain Positives enhance the quality of both picture and sound. They render the detail of a camera formed image more crisply. They record and reproduce sound with greater fidelity. Used in conjunction with fine grained Du Pont Negative they transmit undiminished to the screen the skill and artistry expended in motion picture production.

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BETTER THINGS *for* BETTER LIVING *through* CHEMISTRY

International photographer

Vol. XIII **July, 1941** **No. 6**

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I.P.E.U.
BROWN-CALDWELL



"SHACK" and "JACK"

Anyway that's the title Artist John Hill gave the picture. The picture, taken on the great Gobi Desert, shows "Jack" at the age of about two weeks, at which time Shackelford's party adopted him. One of the members of the expedition knew "Jack" should be kept warm at night, so he took his sleeveless leather jacket and neatly buttoned "Jack" into it each evening, putting his two feet through the armholes. One night "Jack" disappeared, never to be seen again—and fashionably attired in a fine leather jacket. What his mother thought when she saw him, or how he managed to discard the jacket (if he did) still remains a mystery. Shackelford promises a story, with plenty of pictures, on the Gobi Desert for another issue, but NEXT MONTH watch for a story on one of his MAGIC ISLANDS.

also watch
for a fine technical article
BY WILSON LEAHY



"MARTHA" By William Mortensen

UNIVERSAL'S THRILL HUNTER IN CHINA

By George Krainukov,
Universal Newsreel Staff Cameraman.

Krainukov, the author of this article, has spent the last nineteen years in China (the last ten years for Universal Newsreel) covering floods, famines, wars, vendettas and on many occasions he seemed to lead a charmed life, so miraculous were his escapes. Several years ago after the bombing of the Cathey and Palace Hotels, "Time" published Krainukov's photograph with the caption underneath, "George Krainukov's pictures were the most gruesome of them all." When a bomb hit the entrance of the Cathey Hotel and another the roof of the Palace Hotel, he was wounded with a fragment, but kept on grinding until he got the complete story. Dozens of times he has been under direct machine gun fire, bombings, explosions and what not, and always seems to have returned with the story.

Krainukov says, "The Newsreel cameraman leads the most thrilling life of any artisan today. He must think quickly and accurately and must face the world's greatest dangers calmly—and eagerly." He has done just that.

When the dark and gruesome thunder of war looses its ominous growls over vast plains of death, heroes are molded from the most common of clay. Love of home, love of homeland, perhaps even love of their gods, transforms men into individuals, who fear not death, but only dishonor. Inspired by such all-compelling motives as love, patriotism, or religion, death is naught but constant comrade. One brief moment of glory, and memory of how they passed, in the minds of those they served, the dying deem recompense enough.

But what of the unsung heroes, those who hold no passion for either side, whose presence on the far flung theatres of batle is not by choice, but of necessity, whose purpose is not to fight, but merely to record, that the world at large may see, be entertained, perhaps—be amused?

I speak of the newsreel cameramen. To paraphrase: "Theirs not to reason why, theirs but to go and try," to get the picture! Whether it be in the vermin infested, fever ridden, foul pest holes of Ethiopia, where sanguine butchery seems to have been a pastime; on the high perched, deadly plateaux of Spain, or in the seething vortex of nations that is the Orient, the aim is the same: GET THE PICTURE! For a few fleeting minutes we see the results on a screen of our neighborhood playhouse and are appropriately appalled at the conditions and events portrayed.

But what of the men who got the pictures?

Since I left China on my vacation to America, many people approached me to write articles of my experiences in China as a newsreel cameraman, give lectures or even to write a book. Well, I never thought of that and beside I was too busy covering events for the last nineteen years which I spent in China, cranking a motion picture camera all over the country and chasing hot news in floods, famines, wars and bandit vendettas to be flashed across the silver screens the world over. There are many fascinations in the newsreel game despite the innumerable hardships I have gone through during that nineteen years of turning a camera crank.

The story of my career as a newsreel man is packed full of thrills, and being born an adventurous Russian I enjoyed all of my manifold experiences, even when my life hung on a thin thread. Whenever there was a war, be it Japanese, anti-communist or what have you, I was to be found cranking my machine somewhere behind





Upper: Krainukov on the front line with the Japanese Army; Lower: With the Chinese Air Force.



George Krainukov, Universal staff cameraman, shooting Shanghai street scenes.



Fleeing into the International Settlement.



Dead and injured on Nanking Road in front of Palace Hotel.

the lines registering on celluloid, history in the making.

Starting as a volunteer in my father's 12th Siberian regiment, I fought Germans for two years, when on a military assignment I was caught in the midst of a Russian revolution in St. Petersburg, the capital of Russia. I was forced to shoot policemen and counter-revolutionists. Discarding my rifle I drove a car, but one night being suspected as a counter-revolutionist—my car was riddled with thirteen bullets, my lucky number ever since. Escaping uninjured I quickly made a decision that the front lines were much safer than the main street in the Russian capital and so I found myself again fighting our enemies.

Civil war and retreat of the armies, found me in Vladivostock in 1918 where I joined the Y.M.C.A. motion picture department, and got my first experience in handling a Pathe movie camera. However, the arrival of the Red Armies in Vladivostock landed me in Shanghai, China. There I started as a cameraman on the staff of the British-American Tobacco Company. Soon after my arrival in China I was initiated into the newsreel profession, which became my life work. During the days while I was with the B.A.T., which at that time was producing "shorts" and news pictures to aid their advertising department, I traveled all around the country in search of news.

In 1925 I joined a scientific expedition into the jungle of Fukien under the well-known explorer Mr. Floyd T. Smith of the Field Museum of Natural History, Chicago. It was during this trip that I tasted the first of the adventures of a newsreel cameraman when we were captured by bandits while on our way up river from Foochow to Yenping. It was the hard bargaining with the bandit chief that finally set us free on the payment of $200.00 instead of $2,000.00. However, we struck bad luck and were captured again a week later. High in the jungle mountains in an abandoned Chinese temple, where we were imprisoned. I managed to get away with my De Brie camera, tripod, Graflex and two rolls of spare film. Did I run? I think I have beaten all the running records existing at that time, coming to Yenping soaked through with perspiration and with blood all over my shoulders from carrying the heavy equipment.

I also photographed the first real war pictures ever filmed in China when in 1924

I "shot" scenes of the hostilities between Marshal Wu Pei-fu and the late Marshal Chiang Tso-lin the war lord of Manchuria. The great Yellow river flood was covered in North China in an old Vimy-Vickers. twelve-passenger plane, the first pictures ever made in China from a plane. The same flood afterward was covered in a small junk. We were caught in a storm, bitten by myriads of mosquitos, and finally I contracted "Hongkong Foot" disease from which I was unable to be freed for six years.

Then the eventful year of 1927 rolled along. I was connected with Paramount News and was busy with my camera taking various scenes of the Nationalist campaign. I was on the spot with Merl La Voy when the victorious pro-Nationalist General Yen Hsi-shan's troops took Peking. the old capital of China. I could never forget the scenes I took of the hungry, barefooted



Krainukov in front of the "archy" in Nanking.

marching Chinese soldiers, exhausted by endless hours of marching under the scorching Peking sun, picking up pieces of ice from the dusty road fallen from a passing ice-cart. to quench their thirst. It was here that I first met James Shackelford, friendly cameraman connected with Roy Chapman Andrews Expedition. and now after fifteen years I have had the pleasure to again renew the acquaintance.

In a snow storm in December 1929 I was tangled up in the Pukow military mutiny and looting by General Hsih Yao-shan's troops. Night came and with a heavy blizzard from up-river. driving sleet and snow. With practically no warning, the troops in the sheds arose in rebellion. Their loyal



Another scene of "Bloody Saturday" bombing before the Palace Hotel. Krainukov was saved because of standing at extreme left.

officers they killed. or drove them into the storm. They flowed through the sheds, breaking up all freight and opening all cars; they rolled out over the native town, killing and robbing everyone they met. Three Chinese officers and eight bodyguards and myself were disarmed. robbed of everything we had, roughly handled and threatened to be shot. Jumping from the train and running under cars in the Pukow yard with rebels spraying us with bullets. we soon came to safe ground. and before the soldiers attempted to storm the Belgian steamer "Carlier." Captain F. H. Peret admitted me and four Chinese on board. What happened to the others I never learned.

Mutineers took all my money, personal



Taken from the entrance of Cathey Hotel, where the bomb struck. On the opposite side is the Palace Hotel.

belongings, stole or destroyed two of my motion picture cameras and equipment. Then the soldiers decided to gut the steamer. They came down in hundreds, but were "outfaced" by the thin, but grim line of armed Europeans that barred the way. So wrecking the gangway they proceeded to less dangerous spots. When they were satisfied with loot and killings, they commandeered all rolling stock in the yards, forced the railway employees to run the locomotives and proceeded to a point 15 miles from Pukow, where they entrenched and were displaced and broken up by loyal Nationalist Nanking troops a few days later. Meantime, Captain Peret had shifted to a safer point, going downstream and anchoring. For that experience a well-known Yangtse River Captain Joe Miclo (who was a few years later killed and thrown overboard by the Yangtse river pirates) gave me a name of the Grand Duke of Pukow.

Then came the Great Yangtze River Flood of 1931. There were more than 500,000 dead. A frantic rabble clawed itself to pieces to get out of stricken Nanking and I breasted that rush of water and humans to record the disaster. Having sent a call for help, I stuck in the flood area, taking my pictures until the water was up to my chest, even when I perched on the roof tops. My faith was justified. In far away New York, Mr. E. Cohen my editor had managed to charter a Chinese seaplane to find me amid the yellow waters of the Yangtze. It arrived in time to take me to safety and to speed the film toward the world's screens. The pictures were exclusive for the Paramount News. Many cinema-goers will remember news-pictures of the greatest disaster that had happened to China since the Yellow river changed its course. Millions of people were drowned, millions more rendered homeless and starving. Help poured in to China, mostly from America.

Earthquakes in Formosa in 1935 provided another five exciting days. The North-Eastern region was being devastated, and after flying from Shanghai to Foochow and then by tiny coastal boat across the stormy sea to Tai Hoku, the capital of Formosa, I set out on foot, walking from town to town and taking pictures as I went. Roads and bridges disappeared after I had crossed them and I would never have gotten back to Tai Hoku but for the guides who accompanied me to each town or village, leaving me there in the hands of another guide who knew the immediate district. At night I slept in little hotels which were made of wood owing to the country's frequent earthquakes. The weariness engendered by my long daily walks carrying heavy eqnipment under the scorching sun made me immune to any shocks, and I slept soundly every night, whilst the earth rocked beneath me and buildings fell to bits in the village. My only fear was that the peculiar wide heavy mosquito netting in use there might fall on me, and envelop and strangle me.

In 1931 I joined Universal Newsreel and from then on events were moving fast in China. Starting with the Mukden "incident" that set the world ablaze, I photographed nearly every phase of the historic events which reached their climax with the fall of Shanghai, Nanking, Canton, Hankow and the continuous bombing of Chungking.

But not all the credit should go to the cameramen; the major part should be given to our editors. They have to be able to set us down in a Mongolian famine or a first class war, and know that whatever the trouble is we go in and get the pictures. They've got to have confidence in us, and we've got to have confidence in them. We've got to know that they appreciate our trouble and our dangers. We've got to know that whatever jam we get ourselves into for them, our editors will work intelligently to get us out. One editor said: "You can't make your men burn incense before you. They've got to know they're working *with* you and not *for* you, if you get the results." And it is with this feeling that we cameramen dash into the thick of dangerous situations.

Often I lived with Chinese and Japanese troops, camping with them, riding beside them, lying side by side with them, shooting the news whilst they were shooting each other. Then came the Sino-Japanese war of 1932 and the "Hongkew Park" bombing when several high Japanese Generals, diplomats and other officials were seriously wounded. One of them Admiral Nomura, now Ambassador to America, lost his eye in that bombing of which I got exclusive pictures. General Shirokawa, Commander in Chief of all Japanese armies in China, died of wounds: Shigemitsu, now Ambassador to Great Britain, lost his leg and others were severely wounded. The bomb was thrown by a patriotic Korean, who was caught at the spot. What happened after the bomb exploded, I leave to the imagination of my readers. And yet, I not only got the bombing, but took two hundred feet more of the pandemonium and was able to get out of the park with my precious film with the park surrounded by angered Japanese soldiers who would shoot anyone at the slightest provocation.

The Sino-Japanese war that started from the "Marco Polo Bridge" or as Chinese called it "Luockochiao," brought a chain of important coverages during which I was twice wounded. Once when I walked from the Chinese lines to the Japanese through "NO MAN'S LAND." The second time was during the bombing of the Cathey and Palace hotels on Nanking road, the main street of Shanghai. The American magazine "Time," in its issue of September 13th, 1937, published a photograph of me. Underneath it was the rather peculiar compliment: "George Krainukov's pictures were the most gruesome of them all."

Once I was standing on the corner of the Bund and Nanking road watching two silvery objects dropping from a bomber. . . . A few seconds later the bombs struck. One hit the entrance of the Cathey hotel and the other hit the roof of the Palace hotel. I was wounded in the knee by a fragment of the bomb and hit in the back by the bloody mutilated body of a Chinese who had been killed. I was soaked all over in hot blood. This perhaps saved my life. I turned around and got the complete story. For this the editor of Universal Newsreel sent me a substantial bonus and in their caption sheet Volume IX, Number 595, called "The Scoops of Scoops," they wrote:" . . . George Krainukov wounded by a bomb fragment, Universal's intrepid cameraman stood up under fire and kept on grinding, so YOUR screen might be enriched by the most spectacular scoops of the century! The whole New Universal organization is proud of you George!"

There are many interesting and fascinating things to write about that would fill the whole book. Suffice to say that I have been dozens of times under direct machine gun fire, bombings, explosions and what not. Press association once said: "George Krainukov, Universal Newsreel Staff Cameraman in China, is coming to be known as the luckiest man in China. And indeed he does seem to bear a charmed life. Universal Newsreel today shows the first scenes of the capture of Shanghai which Krainukov took under the most dramatic circumstances and at the eminent risk of his life. Two of his companions on the roof of a 75 foot water tower in French Concession were hit by machine gun bullets which probably were fired at Krainukov's camera, yet Krainukov escaped without a scratch and even filmed the removal of his killed companion the British war correspondent Pembroke Stephens."

In Nanking when huge Japanese bombers droned over the Nationalist capital, dropping a hail of high-explosive missiles as Tokyo acted to execute its threat to destroy the city, I cheated death by inches as one of the Japanese raiders fell in front of my camera, damaging my car. I stood there by my camera, recording the most ruthless air raid in the history of the world up to that time. With me on the roof were famous and daring cameramen: Eric Mayell, Arthur Menken, who took the danger as a matter of fact. While another ace cameraman "Newsreel Wong" in Shanghai was covering his famous story of the bombing of the South Station.

I have been shooting a news camera for the last nineteen years and have taken hundreds of thousands of motion pictures of Chinese life and Chinese strife, from Shanghai West to the far interior of Thibet, North China and Mongolia and to the French Indo-China. The distances to be cov-

ered were great and often New York sending me on assignment, would think I could be there in a day or two, when it took me sometimes weeks before I could reach the place.

During political unrest and constant changing of armies and due to the manner in which the various scenes that I photographed of Chinese war were used, with commentary entirely sympathetic to the Chinese people, my life became endangered because my pictures were undisputable proof of what was taking place and naturally forces opposing the Chinese could not have a very warm spot in their hearts for me, so I decided that it would be longer and healthier for me if I made my home in America, because when the insurance company in Tokyo began selling policies issued in time of 30, 60 and 90 days . . . it was time to go some place and that place was not Shanghai.

In the latest occupation of Shanghai, passes issued in the previous war by officers that now occupied commanding posts were useful. It was lucky for us that they used the same officers in both wars.

However, those were the most exciting, destructive and yet most comfortable wars we ever had. Days in the trenches and nights in hotels and clubs with fellow cameramen or journalists, such as Joe Rucker of Paramount; Eric Mayell of Fox Movietone; Ariel Varges, Bonny Powell who took hand to hand fighting from the "Doomed Battalion"; Newsreeler Wong who nearly lost his head, but escaped to Hongkong; A. Alexander with Tappen, poor fellows who lost their lives while on the job: Paul Heise, ever smiling and friendly; big husky Mervyn Freeman who crossed the ocean to work in the war in 1932; Floyd Gibbons, the one-eyed reporter; Howard Winner, young and brave cameraman, who was replaced later by another ace, Norman Alley who photographed the sinking of the Panay. Yes, that was a great time and fine men we had there!

Political situations in China make my work there now more dangerous than machine gun bullets or bombings and so my company granted me "home leave." But I have no home. Thanks to my many American friends who helped me to get an immigrant quota visa, now I am here. In God's country, where people are free and friendly. My immediate plans are indefinite. However, it doesn't matter. What does matter is that I am on American soil, that I am in a free country and my wife and I are very happy. What may happen to us is all in the hands of God and our good friends. I know only this: that someday I'll find my little place under the friendly sun in America and here hope to make my home and be a good American citizen—a home in the country that I always have dreamed of.

SWORDFISHING WITH SHACKELFORD



Shackelford and his party off Piercy Rock, northwest New Zealand. It was here they caught the record swordfish of the trip. This rock juts up 400 feet out of the sea with nearly perpendicular sides. Seamen claim they have sighted with field glasses the Tuatara lizards on the two-acre flat top. This dinosaur-like animal is the oldest living creature on earth.

Floods End Plans for Underground Premiere

Warner Bros. has been obliged to cancel its plans for a premiere of "Underground" in the Carlsbad Caverns, New Mexico. The studio has been notified by the Federal Government that flood waters inundated portions of the caverns and that the huge underground auditorium could not be dried completely before June 28, the date set for the film's national release.

Fox Purchases "A House at Peace"

A brilliant new novel on present-day England, "A House at Peace," was purchased by Darryl F. Zanuck, 20th Century-Fox production chief, from Charles Morgan, noted British author.

The novel, bought as a vehicle for Henry Fonda, tells of England in the war, although there is no conflict in the story. It reflects the feeling of the war, how it was broken and disarranged the lives of all the people in England.









Starring Gloria Swanson and Adolphe Menjou

"Father takes a wife" - and it's Gloria

Since Gloria Swanson left pictures in 1934 to engage in the manufacturing business, until her return in RKO Radio's currently filming "Father Takes a Wife," there has ben no change in her film appearance except her eyes.

But that change is due to change in photographic film, according to Ernest Bachrach, who photographed the star for seven years and is again her official portrait man.

"Formerly, when we used ortho-chromatic film," Bachrach explained, "Miss Swanson's eyes photographed light grey. Today, with the use of panchromatic film, her eyes are considerably darker—but still as luminous.

"Otherwise, the same exotic quality, the cooperation in posing and the photogeneity, are still there."

As the Swanson swept before the clicking cameras at RKO last week in a cloud of white bridal chiffon, 250 blase show-hardened movie extras suddenly went pop-eyed, then berserk with a spontaneous burst of cheering.

A sincere tribute which Gloria knew how to accept—with the proper admixture of graciousness and savoir faire.

The incident, as much as anything else, indicates the universal affection Gloria Swanson has had since she became a screen glamour star, the kind of affection given only to Wally Reid, Rudolph Valentino and Will Rogers.

As far as externals go, she might have left Hollywood only last week instead of seven years back.

Wherever the distinguished French clothes designer, Rene Hubert, went in Hollywood, Los Angeles and Beverly Hills when gathering together accessories for the $10,000 eighteen-change wardrobe for "Father Takes a Wife," tradesfolk were similarly all aflutter. Many were the personal and endearing messages they asked Hubert to deliver "to Gloria."

More than 500 telegrams arrived at the studio from astute exhibitors throughout the land congratulating RKO on the casting coup—and asking for booking dates.

Work at the Melrose-Gower film plant was practically at a stand-still that morning Miss Swanson worked before the cameras for the first time. Not only the secretaries wanted to see the famous star, but the entire contract list of stars and leads wanted a first, or another peek at Gloria.

"She's marvelous," was the unqualified consensus of opinion everywhere, especially from the boys and girls of the press, who were among the first in the goggle-eyed rush.

Perhaps not all the interest was centered in Miss Swanson. The teaming of Hollywood's two most famous clothes horses, Gloria Swanson and Adolphe Menjou, is a fashion world event in itself.

The two play the title roles in "Father Takes a Wife," which is a reverse-English story of matrimony by Herbert and Dorothy Fields.

As a glamour stage star, a made-to-order role for Miss Swanson, the wardrobe is all-inclusive—a negligee, evening gown and wrap; traveling outfit with fur coat; evening dress; hostess gown; dressing gown; afternoon outfit; traveling outfit and fur coat (another one); slacks for a boat scene (first time Swanson has worn them); gymnasium costume; luncheon outfit.

Street ensemble; dinner dress; evening gown and wrap; night dress and negligee; afternoon dress; another street ensemble; dress for day wear. In all eighteen layouts—costing plenty.

Of late as president and general manager of Multiprises, Incorporated, a concern in Queens, New York, Miss Swanson hasn't been idle. It took a script like "Father Takes a Wife," being directed by Jack Hively, to draw her to Hollywood again.

"One day I was reading the scenario sent me by RKO," said the actress, "and without much enthusiasm or hope—when suddenly it dawned on me that the story was my story and the chief character my own self. I was sold."

She was born in Chicago, Illinois, March 27, 1898. Her father was a Captain (later a Lieutenant-Colonel) in the United States Army. His name: Joseph Theodore Swanson.

Because of the continuous routine change of stations, little Gloria received schooling in sixteen different army posts—in Chicago, New York, Porto Rico, Key West, Florida, Utah, Mexican Border and other places.

Gloria's earliest ambition was to be an artist. To further it she attended the Chicago Art Institute at the age of 14 and attracted considerable attention for her black and white sketches.

At the age of 15, her aunt took her on a visit to the old Essanay Studio in New York. Greta Holmes was starring in the picture and the director, a friend of the aunt's, gave the youngster a bit in the film—just for a lark.

Her striking beauty photographed so well, so amazingly well, in fact, that Essanay signed her on a long term contract and starred her in "Elvina Farina' and "The Meal Ticket."

The following year she went to Hollywood with her mother and made a number of comedies with Mack Sennett and Keystone, in which she co-starred with Bobby Vernon and other celebrities.

Next she signed with Triangle and starred in "Her Decision," "Every Woman's Husband," "Wife or Country," "Secret Code," "Station Content," "Shifting Sands" and "Smoke."

Her work attracted the attention of C. B. DeMille and under his direction she soared to fame—in "Don't Change Your Husband," "For Better or Worse," "Male and Female," "Why Change Your Wife?" "You Can't Believe Everything," and "Affairs of Anatol."

After three years with DeMille she signed with Famous Players and made a string of successful vehicles, among them "The Great Moment," "Under the Lash," "Her Husband's Trade Mark," "Beyond the Rocks," "The Gilded Cage," "The Impossible Mrs. Bellew," "My American Wife," "Prodigal Daughter," "Bluebird's Eighth Wife," "Zaza," "The Humming Bird," "Society Scandal," "Manhandled," "Wages of Virtue," "Madame San Gene," "Coast of Folly," "Stage Struck," "Untamed Lady" and "Fine Manners."

In May, 1926, she joined United Artists to produce her own pictures. The first of these was "Loves of Sonya," in which John Boles made his screen debut as leading man. Then came "Sadie Thompson," "The Trespasser," "What a Widow," "Indiscreet," and "Tonight or Never."

In 1933 she made "Perfect Understanding" for a British film organization, and returned to the United States in 1934 to Fox and again teamed with John Boles in "Music in the Air."

Few stars have had such a long and sustained and successful acting career . . . Fewer have so well personified glamour and worn clothes . . . She is five feet, one and a half inches tall, and weighs 110 pounds . . . Has dark brown hair and remarkably brilliant eyes of deep sapphire blue . . . She has many friends of long standing . . . Hates loneliness and has an unreasonable fear of the water . . . Likes having people in—and her delightful afternoon teas have become legendary in Hollywood, New York City or wherever she happens to reside.

Devoted to tennis and to dogs . . . Has three children, Gloria, Joe and Michele.

Loves flowers . . . plays "hunches" . . . rides like the wind—a left over from her army days at cavalry posts.

ANIMATED CARTOON photography

By John W. Burton



The author of this article.

A far cry from the glamorous conditions of Class A feature production, animated cartoon photography undoubtedly is no mystery to most of you, but for those who never have had the pleasure of being in a cartoon studio, a few words of explanation.

Those of you who are familiar with the subject know that motion pictures are photographed at the rate of ninety feet a minute, which is exactly twenty-four frames a second. The film thus obtained gives a photographic record of progressive positions of the action.

In animated cartoon production this procedure practically is reversed. We analyze the action to be photographed, then make a series of cartoon drawings representing the number of frames of film required by the timing we want. These drawings are painted on clear sheets of celluloid and photographed in their proper sequence over a background that has been painted to represent the scene or setting. The result is a strip of motion picture film of progressive cartoon drawings that give us the illusion of motion when projected.

Our cartoon camera cranes are constructed so that the camera is suspended from above the photographic field, which is like a table surface, equipped with a glass plate operated by air pressure to hold the celluloid drawings flat over the background. Bell & Howell cameras are used, equipped with a "stop motion" drive and are set on a worm gear which allows the cameras to be raised or lowered, permitting the cartoon equivalent of "truck shots." In certain shots to give the illusion of following the action, or "panning," long backgrounds are made and between each exposure the cameraman moves the background a certain predetermined distance.

In cartoon photography the cameraman must be gifted with a great deal of patience as well as a very methodical mind as each exposure requires an accurate set up. For example: in many scenes in addition to seeing that the camera, color filters, take-up, etc., are operating correctly, he must remember to change the drawings correctly according to their sequence, move the background the required distance for pan shots, truck the camera up or down, follow focus, as well as possibly changing the shutter each frame should he be fading or dissolving. Each cartoon has about 12,000 such exposures. This might explain why most of us boys seem a bit "tetched in the haid."



Henry H. ("Smoky") Garner and Manuel Corral at work in Leon Schlesinger Studio.

For various camera and optical effects used in production, the camera department has accumulated an amusing variety of home made trick lenses. For such effects as used in water scenes, heat effects and in shots requiring special distortions, a collection of glass dishes, bottles, bowls and pieces of window glass, some treated with solutions and others warped after heating, have been acquired, making a rather unusual assortmnt of optical equipment.

Some animation that should be quite lifelike or human in its action presents a rather difficult problem of analysis which we often overcome by actually photographing human actors and actresses going through the action to be done later in animation. This gives us our only excuse for occasional location trips as well as providing the opportunity to "keep our hand in" with regular production equipment. The motion picture film of this human action is used by the animators to analyze and otherwise assist them in the animation of the cartoon characters. Some of these shots have been quite interesting. For instance, the strip tease sequence in the cartoon "Cross Country Detours" and the bubble dancer in the picture "Hollywood Steps Out."

Several color cartoons have been produced by Mr. Schlesinger that have incorporated the use of actual motion picture sequences in conjunction with animation. This offered an interesting problem, as Technicolor cartoons are photographed on a single strip of negative with the three color separations for each frame in successive order, while regular Technicolor pictures use three separate negative strips. This makes impossible the intercutting of cartoon Technicolor and regular Technicolor. To use the regular Technicolor in

(Continued on page 25)

paradise south

By Burr McGregor

At Xochimilco, centuries of romance still lingers under the bright sun that looks down upon "The Place of the Flowers." Mexico's famous paradise of flowering beauty, a short ride south of the Mystic City.

Way back in the thirteenth century, one of the Nahualtac tribes, the Xochimilcas, were vanquished by the savage onslaughts of the invading Aztecs, who in turn were driven back by a powerful chief, Coxcoxtle, into the far reaches of the reed-growing shores of a lake, where they survived by constructing "Chinampas," great floating masses of reeds and brush, laced and intertwined, and covered with earth upon which the builder placed his tiny shelter-hut and planted his crop in the earth of his floating garden.

Increasing in numbers, the gardens floated out upon the surface of the lake, to be pushed about and bumped together as willed by the vagaries of the changing winds until a way was devised to hold them apart.

Long, green willow and poplar poles forced through the earth-matting around the edges of the "island" into the bed of the lake; the poles took root, anchoring the little "islands," separating them with waterways and canals between. As the waterways became clogged they were dredged and the accumulation of silt and vegetable matter thrown back on the "island," increasing its fertility and lowering it until it became permanent.

Thus, in time, each island-garden was bordered with slender graceful willow and poplar trees of brilliant green foliage, spreading cooling shadows across the gardens and waterways with their intertwined roots building a bulwark against the erosion of water action, and lapping waves, from passing boats to and from neighboring gardens and growing markets.

Xochimilco was one of the most stubborn and bitterly contested strongholds of the Aztecs to be conquered by the Spaniards. Fighting was ferocious on both sides, with fearful slaughter.

For a trifling charge we engaged a comfortable, flat-bottom, square-blunt-ended, canopied boat, propelled gondola-like by a handsome bronzed descendant of the proud Aztec race; tall, lean and broad shouldered, courteous and pleasantly indifferent, whose dark eyes danced and sparkled as he pointed out the island-gardens that have produced in abundance since the days of his forefathers, luscious fruit, berries and vegetables and fragrant, exotic flowers of wonderful bloom and color.

Lazily, dreaming of romance, we floated through the morning along the smooth waterways till noon and our boatman propelled the craft into an indenture of a garden bank. He hailed one of many other craft of musicians, and one of a kind propelled by a comely native young woman. In the center of her canoe was a tiny stove-arrangement fed by charcoal, upon which she could prepare a delicious meal from food neatly stored and protected along the sides of her canoe.

With the musicians on one side, and the refreshment canoe on the other, we dined and dreamed amid the beauty and fragrance of myriad colored blooms, in the cool shade of ancient trees, to the soft strains of stringed instruments and plaintive lullabies.

Back in the waterways, propelled along by the sweep and pole of the boatman, he threaded our course through an intricate and colorful water traffic of craft laden with market produce and singing, laughing, musical holiday seekers.

To our right, to our left, passed great masses of roses, lilies, carnations, growing in brilliant gardens and loaded high in canoes on their way to the great flower market of the city.

Birds of brilliant plumage mingled their

(Continued on page 21)



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Main canals thirty to fifty feet wide



"A Thousand Cameras," by Bert Longworth, from Warner Bros.' short, "Richard Himber and His Band." These shots were made with two old mirrors, about twelve feet wide, used in "Gold Diggers of 1936," one of the mirrors having acquired a large bulge from having stood so long. The lighting is all from the side, which when reflected gives the front lighting. First cameraman, Arthur Todd; operative cameraman, George Nogle; assistant, Frank Evans; stills, Bert Six; director, Jean Negulesco; assistant director, Jack Sullivan.

THE KODATRON

High Speed Lighting Unit plays an important role in Commercial, Illustrative, News, Portrait, Medical, Scientific and Technical Fields

To the photographer, the new Kodatron Speedlamp opens the way for pictures of superb technical quality in either black-and-white or Kodachrome, at extremely low illumination cost, with extremely small lens apertures, and with no chance of subject motion in the negative or color transparency. Completely modern and incorporating an improved circuit, new safety and convenience features, this unit is attractively styled for use in the finest studio.

Some of the advantages include:

1. Critically sharp pictures of subjects moving at high speed.

2. Simple, positive synchronization with most types of camera shutters, and no need of adjustment for lag.

3. Ability to flash any number of lamps in unison, with perfect synchronization, by means of simple photocell control units which eliminate the need of wiring from lamp to lamp.

4. High-speed color photographs with Kodachrome Film, in addition to black-and-white photographs.

5. Great depth of field, owing to the small apertures which are made possible by the high volume of light.

6. Uniform volume of light at each flash, with no practical deterioration as the flash tube ages.

Tube Yields More Than 5,000 Flashes

7. Long life of the flash tube (upwards of 5,000 flashes).

8. Subject comfort in pictures which include models, and better conditions for commercial subjects such as food displays which deteriorate readily—since the Kodatron lamp is free from the heat produced by conventional high-wattage studio lamps.

9. Accuracy of modeling, a modeling, or focusing lamp being centered in each flash tube so that the angle of lighting is precisely the same for both flash and modeling light. The modeling light also gives a faithful preview of the light balance that will be obtained in the flash photograph.

10. No eye discomfort for subjects, because of the extreme brevity of the flash. To the eye, the Kodatron flash appears much softer and far less intense than other types of photographic flash illumination.

11. Normal pupil size in a subject's eyes, owing to the moderate illumination level used in modeling and focusing.

12. A specially-designed reflector which yields illumination intermediate between that of a spotlight and a floodlight. Well suited for general lighting, the reflector is also directional enough to increase the intensity along the axis to a considerable degree, for shots at long range.

13. Unique economy of operation, owing to the long life of the flash tube, extreme durability of tubes in the power unit, and an indefinitely long life for the power unit itself.

14. Low power consumption, which effects a substantial two-way saving: first, in lower electric bills; second, in studio wiring requirements. The Kodatron Speed-

















Starting upper left, reading right: Jack Cole and partner; Betty Grable and Homer Pan, from Twentieth Century Fox Production, "Moon Over Miami," stills by Frank Powolny; next three stills are by courtesy of Eastman Kodak Company; upper right and on with the next two, Anna Neagle and Ray Bolger in their dance routine in the RKO Radio filmusical, "Sunny," stills by Alex Kahle; with hats in the air are the Nicholis Brothers,

(See story starting on page 13)















shot by Frank Powolny in Twentieth Century Fox Production, "Sun Valley Serenade"; Ann Neagle and Ray Bolger dancing the Sailor's Hornpipe in "Sunny"; two lowers page 14 from the same production, stills by Alex Kahle; the figure that looks like the scarecrow with Ginger Rogers is really Burgess Meredith in a scene from the fantasy sequence in "Tom, Dick and Harry," RKO Radio romantic comedy, still by John Miehle; and last is another scene from "Sunny" of Anna Neagle and Ray Bolger by Alex Kahle.

lamp does not require the special wiring necessary for ordinary studio lamps.

15. Reasonable portability. Reflectors and power units for three lamps can be carried in the rear end of a business coupe or sedan.

Solves Long-Standing Problems

With the Kodatron Speedlamp, ultra-speed photography is no longer a laboratory stunt. Subject motion, once a problem in many fields of photography, is now an asset. The new lamp also provides complete freedom from certain other limitations of the past, and greatly extends the range of practical photographic subjects, treatments or effects. For the commercial and illustrative studio, it solves the ancient three-horned dilemma of subject motion, field depth, and adequate illumination —especially in color photography. In the scientific, medical, and technical fields, its uses are virtually unlimited. It has definite application in portrait photography, whenever an apparently unposed, characteristic effect is desired, or when the subject is a child or unpredictable pet.

Where large areas are to be covered, the Kodatron lamp has unusual value because of its long throw and great intensity. In spite of its apparent mildness, the single flash provides illumination equivalent to that of 50,000 forty-watt tungsten lamps. This quantity of light is sufficient to provide a fully-timed negative of an average subject 30 feet from the camera at a lens aperture of f/11, when used with films especially recommended for this type of radiation. Correspondingly smaller apertures can be used when the subject is nearer the lamp (or lamps).

The Kodatron flash is accomplished by discharging a condenser through a gas-filled tube. Ordinary 115-volt, 60-cycle current is led into the power unit of the lamp, where a specially-constructed transformer steps it up to 2,000 volts. This current is then rectified and used to charge a condenser. When the trip circuit is closed (manually, by a flash synchronizer, or by the photocell unit), the energy stored in the condenser is discharged through the tube, producing a flash of high photographic efficiency.

In photography with the Kodatron lamp, the time of exposure is fixed not by the shutter speed used hut by the duration of the flash. An effective flash duration of nearly 1/30,000 second combines high volume of light with ability to stop virtually any moving subject, except a rifle bullet. In these high speed lamps, the time of the flash is determined by the capacity of the main condenser in the power unit. By using a small condenser, it would be possible to speed up the flash to any desired point—such as 1/1,000,000 of a second, or less—but the volume of light would decline correspondingly, thus reducing the general utility of the lighting unit. For this reason, and on the basis of extensive experiments, this flash speed has been selected as ideal for all-round usefulness.

This flash speed is, of course, many times faster than the highest setting of any camera shutter. It is several hundred times as swift as the wink of an eye, and approximately ten times as fast as is necessary to stop an athlete in action. If one second were represented as a mile, the effective duration of the Kodatron flash would correspond to only a few inches of this distance.

An interesting feature is that, owing to persistence of the image on the retina of the eye, the flash seems to last about 1/25 to 1/50 second; and when a swift-moving subject is photographed by means of these lamps, it will appear to "freeze" for just about that length of time.

Current Consumption is Small

With the Kodatron lamp, one flash can be made every ten seconds—this being the charging time of the condenser. The charging takes place automatically, and the ten-second period allows convenient time for changing flim and resetting the camera shutter. Current consumption is quite small during the charging cycle—about five amperes at the start, decreasing in a few seconds to less than one ampere—and this explains the extreme operating economy of the Kodatron lamps. Two to three of the lamps can be operated safely on an ordinary house-lighting circuit fused for 15 amperes.

Quality of the Kodatron light is excellent for photographic purposes, not only in actinic value but also in color balance. Excellent tonal rendering is obtained in black-and-white photographs on panchromatic films without the attendant over correction in the red, which is characteristic of these materials when used with tungsten illumination. For color photography, Professional Kodachrome Film yields highly satisfactory results when used with moderate correcting filters.

The Kodatron Speedlamp is a compact, efficient studio unit. It consists of a power unit 8x10x9 inches, and an 18-inch spun-aluminum reflector on a telescoping steel stand which can be extended to a height of eight feet—both mounted on a small tray-top steel base to which ruhber-tired, swiveled casters are attached. Finish is gray, with some metal parts finished in polished ehrome.

Portable for Assignments

For assignments away from the studio, newspaper office, or other base of operations, the reflector and power unit alone may be used. Each power unit has a convenient carrying handle on top. Reflectors can be mounted on tripods, without need of alterations, or can be held by assistants. The weight of the power unit and reflector is about 40 pomds; that of the complete lamp with base, 59 pounds. Ordinary residence, hotel or convention hall wiring is adequate for these lamps, as noted above.

Controls are concentrated in a small panel on top of the power unit. These controls include the flash trip, "off and on" switch for the main power line, and a red pilot light which shows when the unit is in operation. A single cable from the power unit to the reflector carries wiring for both the flash lamp and modeling light. The lamp cable, and the 115-volt, 60-cycle electric supply cord, plug into the sides of the power unit, and must be removed before the hinged top can be lifted. This arrangement—plus an automatic cut-out switch which functions as the power unit lid is opened — makes it impossible to touch a "live" connection.

The flash lamp itself has a tubular frosted glass shell, fitting over a spiral glass tube which contains a mixture of rare gases. This is the flash element, the gas heating to incandescence when the condenser charge is released through it. Centered in the coil of the gas tube is the modeling light, a projection type bulb of moderate wattage and long life.

Synchronization of the Speedlamp to the camera shutter action may be accomplished by the simplest type of contact adjustment . (A special synchronizing unit for use with shutters having a cable release socket is available.) After attaching the synchronizer, the shutter is simply held up to the lamp, and the release operated. If the flash reveals the complete circular aperture of the lens, synchronization is perfect; if the shutter blades are seen partly opened, a slight further adjustment is necessary. This ease of checking makes it possible to test the synchronization at any time, without the bother or expense of test exposures.

As many lamps as desired may be flashed in synchronism, to cover large areas or to obtain better modeling. Two methods are practical. One is to use wiring from lamp to lamp; the other, to use small accessory photoelectric trip units which clip directly to the lamp standard.

Photocell Control is Convenient

In photo-electric synchronization, a photocell unit is used on each lamp except one, which is connected by wire to the camera shutter. Inter-lamp wiring is eliminated, since the shutter-actuated flash of the first lamp fires all the others, through the action of the photocell units. This method of synchronizing is particularly convenient when the set-up is extensive, or when lamp-to-lamp wiring would be in the way.

Outdoors, or in a dark-walled studio, the photocell units are effective at distances up to more than fifty feet, but in these locations each photocell must be placed so that it can "see" the first lamp. In a studio with light walls, the photocell units will operate by reflected light, almost regardless of their placing. They cannot, however, be accidentally actuated by daylight or the general studio illumination.

For enlargements of sparkling brilliance — use

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(FORMERLY CALLED KODABROM)

Photographers prefer its rich blacks—its speed of development—and like its choice of thirteen attractive grades.

Eastman Kodak Company, Rochester, N. Y.



USING THE EXPOSURE METER

By GLEN C. ANDERSON,
General Electric Company

(Concluded from June issue)

Exposure can be determined by the measurement of light falling on the subject or light reflected from the subject. Either can be measured to obtain correct exposure. Obviously the amount of light falling on the subject determines the amount of light that will be reflected. Usually, it is more convenient to measure reflected light, but the meter has to be restricted to see the same scene as the camera. In the G-E meter, this requirement has been met mechanically, by means of a directional hood or baffle which limits the field of view to that of the average camera. It has a horizontal angle of about 50 degrees, and a vertical angle of about 30 degrees. The vertical angle is made purposely narrow to exclude bright sky and foreground which tends to cause error in exposure.

As a rule, exterior scenes are made by measuring the scene in the same manner that the picture is taken, with the meter pointed at the scene. In interior work where extremely high contrast exists, a more correct reading can be obtained by measuring the light falling on the subject, rather than the reflected light. These incident-light readings are taken with the hood removed and the meter pointed at the camera from the subject. On a scene well illuminated by artificial light with a background of no particular interest, only the actual light on the subject is measured. If a reflection measurement were used it would be necessary to average several readings to obtain the best possible exposure for the over-all scene. So in most cases best results can be obtained by measuring the light falling on the subject of interest.

The calculator on the G-E meter is simply a slide rule which enables you to convert light reading and film value into the proper combination of F stops and shutter speed. The proper combination of F stops and shutter speeds are lined up on the calculator and after it is adjusted for a reading any combination then visible will produce the correct exposure. Small lens openings line up with longer exposure time and large lens openings are opposite shorter exposure time, but in each case there is a definite quantity of light that must fall on the film.

Other calculators can be supplied for the movie and sports photographers. In the case of the movie camera there is a certain fixed shutter speed, such as 16 frames per second. For the sports photographer who must use a fast shutter such as one one-hundredth or one one-thousandth of a second to stop the action there is also a present calculator with shutter speed set with the film value. When the light is measured the light value indicates the proper combination of F stop to use with no further adjustment. Hoods with these different types of calculators are readily interchangeable on the G-E meter.

Now that we know the characteristics of the sensitive emulsions that we are working with, the proper approach in determining the values of film speeds, and the characteristics and design of the instrument we are working with, we can intelligently use these instruments to their best advantage. Working outdoors, with flat, side, or back lighting, the meter need only be pointed at the subject to obtain a usable reading. You will notice that sidelight will usually call for about twice the exposure that a sunlit scene requires, because only half as much light is being reflected toward the camera.

To photograph a subject without regard for background, take a meter reading right on the subject. If your subject is out of reach hold your hand in the same relative position and take a meter reading on the back of your hand. Extensive tests indicate that the color of the average person's hand is sufficiently neutral to be used satisfactorily for most subjects. If you are in bright sunlight and your subject is in the shade, the light intensity of your subject can be duplicated easily by throwing a shadow across your hand for the

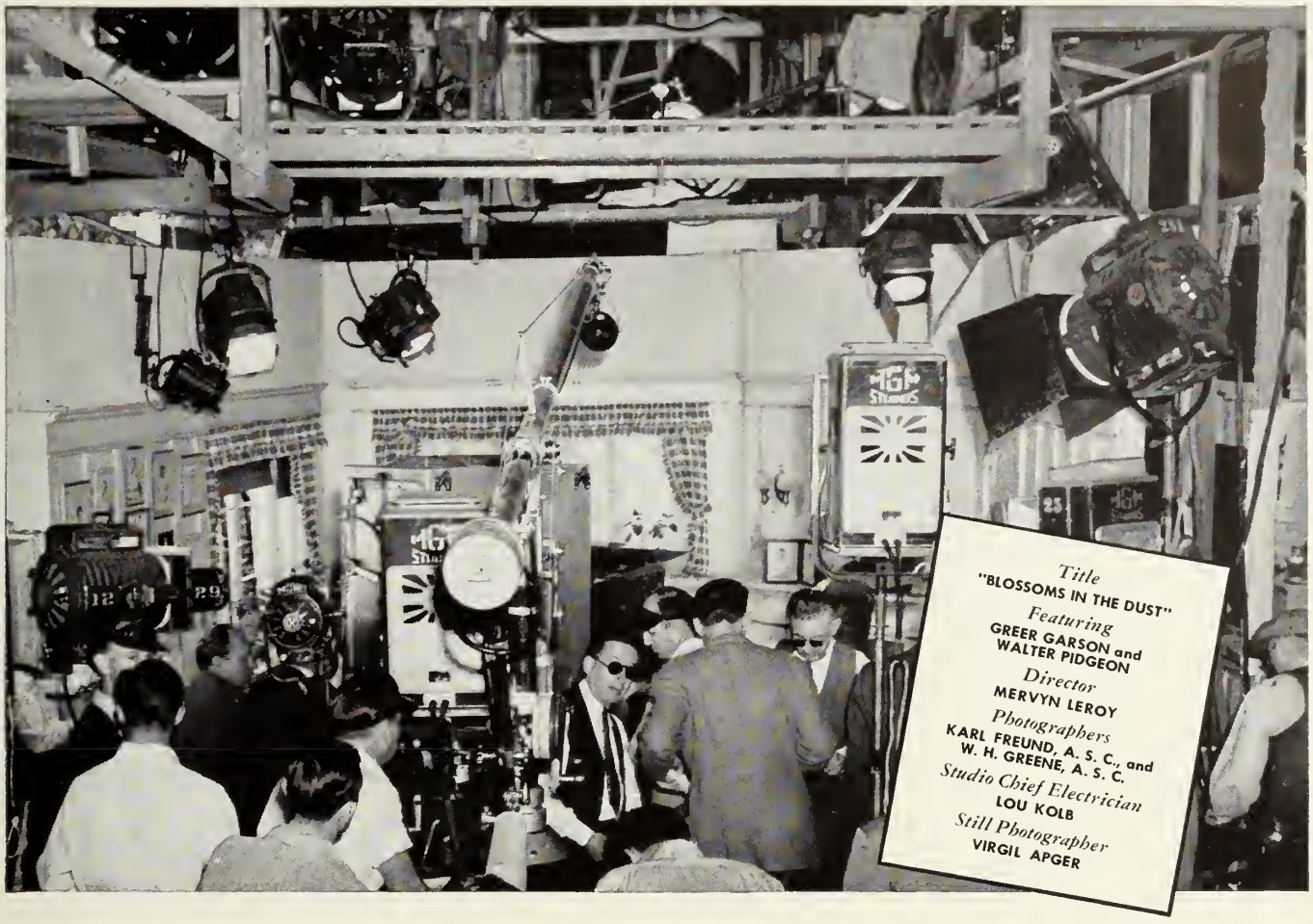
(Continued on page 26)



577856 G-E EXPOSURE METER, TYPE DW-48, WITH COVER CLOSED, SET FOR READING IN BRIGHT LIGHT.



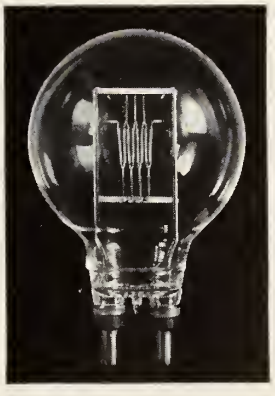
577812 G-E EXPOSURE METER, TYPE DW-48, WITHOUT HOOD, READY FOR USE IN DIM LIGHT. INCIDENT-LIGHT METHOD BEING USED.



"INKIES" FOR TECHNICOLOR at M-G-M

● Here's a shot of one of the sets in M-G-M's new picture, "Blossoms in the Dust," showing how M-G-M shoots Technicolor with black-and-white techniques for sparkling new effects, *using G-E MAZDA lamps in inkies.*

This combination provides great flexibility and extreme compactness; helps them paint with light more effectively to create the results they want; helps them take advantage of Technicolor's full color and brightness range; makes it easier for them to use a multitude of light sources in limited space.



With the many G-E MAZDA lamps for Color Photography and proper filters, the color temperature of the light can be matched right to your needs for better pictures.

These are only a few of the many advantages which G-E MAZDA lamps offer you. Are you familiar with all their possibilities for better photography?

GENERAL ELECTRIC

MAZDA LAMPS

16mm. department

What Shouldn't I Do?—III

Perhaps our article this month could have more properly been titled A DISCUSSION ON FINDERS, but the fact still remains: *DON'T TAKE YOUR FINDERS FOR GRANTED.*

So basically simple in its concept, yet a source of trouble to many because it is so simple, and often totally ignored because it has no direct mechanical connection with the actual process of the exposure of the film. We have seen pictures that were perfect from every technical standpoint, beautifully lighted, and interesting in their content, yet completely ruined because that seemingly unimportant little gadget, the finder, was not given its due consideration after all the "important" problems had been met and solved. Pictures that result from this sort of an attitude can be compared to the appearance a man will present who is most immaculate and impeccable in his dress, has bought the best in clothes, is careful about the color match of the entire ensemble, and has spent the necessary amount of time in their arrangement; but because a necktie is an accessory serving no specific purpose will grab any old piece of cloth that can be properly identified by that name, tie the thing in six seconds flat, and breeze out of the place with the rear length seven inches longer than the front, and with the knot two inches below the collar, and over to one side at that. Otherwise he is *very well dressed!*

Specifically, an uncorrected finder will result in pictures that are too far over to one side—when the scene was viewed directly in the center while being photographed—or with the desired center too high on the screen, if the finder is not in the same horizontal plane with the lens; or we may find ourselves with a picture taking in much more—or much less—than we "thought" we were getting, depending upon the individual finder and camera, and how the camera happened to have been set before the "mistake" was made.

To begin with, every lens used must have a finder or finder adjustment that is *matched* to it, and to it alone. Every lens of definite focal length has a definite angle of view, which in turn determines the exact area that will be included in a scene a given distance from the camera. To be of any value, a finder must have some means of varying its angle of view so that it will correspond *exactly* to that of the lens. This can be accomplished by any one of several different ways, or by a combination of two. In its simplest form, the finder will consist of a concave lens, used as an objective, ground to have an angle of acceptance to correspond with that of the widest angle lens used, and an eyepiece that is merely a "peephole" so aligned and spaced from the objective as to insure the correct distance of the eye to the objective to give the correct angle of acceptance. Finders of this type generally have markings on the objective corresponding to "correct" fields for lenses of narrower angles (longer focal lengths).

Another type of finder, such as is used on the Bell and Howell 16 mm. cameras utilizes lenses for both the objectives and eyepieces, with a series of mattes of varying sizes built into the assembly. These mattes will shut out all but the actual angle included by the lens for which it is designed. Still another type is one having a convex objective lens focusing an image onto a ground glass, and the image thus formed being the picture corresponding to the image in the camera. Mattes, calibrated to include only the area taken in by the photographic lens, are used in front of the ground glass. While this is by far the most satisfactory, being used on the professional cameras, it is the least used in the amateur field, due to the cost, and the fact that it cannot easily be incorporated as an integral part of the whole camera.

Because of the impracticality of the latter—for general amateur use—we find the field limited to the use of the former two. The greatest shortcoming of the first type—the one using the objective with the markings and the "peephole" eyepiece—is to be found in the difficulty of placing the desired action within the confines of the correct markings without confusion; more often than not the action or scene, especially under stress of time, is placed in the wrong area; frequently they are merely used as "guides"! Any *slight* discrepancy in the alignment of these units will result in grave error of placement. Serious composition becomes a difficult problem because of the resulting confusion, and there is a tendency toward vagueness.

Innate in all finders is the problem of *PARALLAX*, and before any serions work is contemplated this must be met and solved, especially for close-up work, as the closer the camera is working to the subject, the greater the problem. Parallax can best be explained as the inability of two lenses—working side by side—to take in the same *identical* view by virtue of the fact that *because* one lens is to one side of another it will show a view that is a *little to one side of the view of the lens under consideration.* AND BEFORE BOTH OF THESE LENSES CAN TAKE IN THE *SAME IDENTICAL* VIEW ONE OF THEM WILL HAVE TO BE TURNED SLIGHTLY TOWARD THE OBJECT WHICH THE OTHER IS FACING. This, simply, is the basis for the correction of parallax. Speaking specifically, if the lens under consideration is the photographic lens of the camera, then the lens of the finder is the one which will have to be turned so as to be pointing to exactly the same *area* which the camera lens is focused upon. It is obvious that the closer the object is to the camera, the greater will be the discrepancy, and the greater will be the necessary correction—or turning—of the finder to be pointing to the image focused upon the film in the camera. It is the failure to understand this point that is responsible for the many pictures, close-ups especially, that result with the object either to one side of the screen, or with the top of the head cut off, depending upon whether the finder is *beside* the lens or *above* the lens.

In professional cameras, extensive provisions have been made for the correction of parallax, a system having been devised whereby the adjustment is made automatically as the lens is set for any given distance; correction is also introduced for different lenses of varying focal lengths. However, to the best of our knowledge, the serious shortcoming of a finder being built into the camera with *no* adjustable compensation is a common practice in the manufacture of amateur motion picture cameras. And at the present time about the only thing one can do with this problem is to make tests to determine just how *much* the finder must be corrected for any given distance, and then compensate for this when shooting. If the finder is to one side of the lens, then compensation is effected by turning the camera *to the left* by the amount found necessary by experiment: if it is *above* the lens, then the camera must be tilted *up* by the predetermined amount.

If it is possible to place a ground glass in the photographic aperture (a thin piece of ordinary tissue will do) and the image viewed in this manner, the camera can be placed on a tripod and the scene or object viewed through the finder, noting the necessary correction required in the finder to bring the image in its proper and desired position on the screen. It is important to remember that the required compensation will *VARY with the distance of the object from the lens of the camera.*

The ideal solution to the finder problem, of course, is to employ one adjustable for parallax, but until the time comes when provisions have been made for them on amateur movie cameras, it will be necessary for us to give our present finders the attention outlined, if we will have our well dressed man appearing with his necktie carefully chosen, meticulously tied, and in place.

TELEVISION

By Duster Evans

In the eyes of the Television world, the month of July can rightfully boast of two famous days—July 4, and now, July 1!

Both days, too, have much in common. Just as July 4 marked the real beginning of a great and prosperous nation, so should July 1 of this year, long be remembered as marking the real beginning of a great and prosperous new industry. "On this day," future records will read, "Commercial Television made its debut as authorized by the Federal Communicaitons Commission."

The exciting fact, today, is that Television, like its bigger brother, Radio, can now sell programs to sponsors. And those who should know say that this will really set the Television ball to rolling. It's pretty hard not to agree, looking back at Radio's spectacular history, and the important part played in its development by the commercially sponsored program.

So an amazing new industry promises to get under way, right in the midst of today's great industrial activity. And yet, a few generations ago, the idea of being able to send a picture invisibly through the air would have been regarded as one of the wildest and most fantastic dreams of the Jules Verne variety.

But science today has no respect for the "fantastic dreams" of yesterday. Not only has it succeeded in sending pictures through the air by means of Television, but these pictures move! They show life . . . action! But this achievement was not enough. Successful experiments have been carried out, transmitting Television pictures in natural color. Television's silvery screen is being transformed into all of the colorful hues of the rainbow. Before long, Color Television may be available to the public.

Yes, one can understand why Television has been called twentieth century magic at its best.

The vast majority of American people, however, have yet to witness their first Television performance. Certainly, they have a treat in store. In fact, let's sit in on a program!

The lights in the room are lowered. A test pattern has already appeared on the screen of our receiver, enabling us to adjust the controls for proper focusing and brilliancy.

Strains of martial music suddenly crash from the receiver, and on the screen we see the title of a news reel. Quickly we lose ourselves in interest as history-in-the-making parades before us. It is as though our neighborhood theatre has suddenly been transported to us, here within the comforts of our home. As the last scene fades, the announcer appears to tell us that a studio play will follow.

We are agreeably surprised at the many clever sight and sound effects used, and soon become engrossed in a well-acted mystery plot. Lighter entertainment then flashes before us in the form of an animated cartoon.

All of the pictures have been clear and flickerless, and the accompanying sound has amazed us with its startling realistic tone. For Television is now profiting from Radio's great new development known as Frequency Modulation. The Television set owner not only enjoys sharp, brilliant pictures, but he is also scheduled to receive the very finest in the way of sound reproduction.

Probably the biggest thrill of Television is that it enables us to see things as they are happening. For instance, owners of Television receivers served by the NBC station in New York City have participated in a wide variety of interesting events. Their receivers have brought them numerous programs and scenes from the former New York World's Fair. They have also seen an eclipse of the sun . . . the impressive ceremonies of the Court of Peace on Pan-American Day . . . a parade of the new mechanized U. S. Army units . . . the annual Fifth Avenue display of fashions on Easter Sunday . . . a view of New York City from a skyliner . . . the arrival and take-off of the great trans-Atlantic Clipper . . . fire-fighters in action, etc.

Sport enthusiasts, too, have had plenty of thrills via Television. They have witnessed a track meet where nine world records were broken. They have attended numerous colleges and professional baseball games. Football fans have also had more than their share of excitement. Tennis, boxing, the six-day bicycle races, fencing, basketball and ice hockey have all contributed to many interesting Television programs.

The movie-lover, also, has been thrilled at the impressive array of educational travel and feature films that have been "televised." Then there have been grand opera, variety vaudeville shows, drama, regularly scheduled news programs, spelling bees, the building and flying of model aeroplanes, cooking demonstrations, travel lectures and movies for arm-chair adventurers, and other interesting events.

Certainly with all of this having occurred within one brief year of "Experimental Television"—what may we look forward to, now that Television has become commercialized?

It seems certain the American family is going to find Television will provide the source for a new "high" in home entertainment and interest. It seems certain, too, that Television before very long will start exerting a real effect in such fields as merchandising, education, aviation, military defense and law enforcement.

But most important, to ambitious young men today, the growth of Television promises to open up a bright new field of opportunity, and in work that is interesting to the point of fascination. Any young man seeking to make the most of his years ahead may well owe it to himself to fully investigate the possibilities ahead of this amazing new industry. Likewise, he may do well to consider how he can prepare to be ready for the start he needs.

Any of our readers who are interested in entering the Television, Radio, and Sound Motion Picture field may secure additional details by addressing the writer of this article, care of INTERNATIONAL PHOTOGRAPHER.

Posthumous Honor to Herman A. De Vry

The innumerable friends of the late Herman A. DeVry, pioneer motion picture projector inventor, engineer and founder of the DeVry Corporation, will be delighted to learn that on June 2, 1941, a posthumous honor in the form of a Doctor of Science Degree was conferred upon him by Lincoln Memorial University, Harrogate, Tennessee.

PARADISE SOUTH

(Continued from page 11)

color with the blooms in this paradise of abundance. Then the boatman pushed his craft silently, smoothly, through an arch of high poplars with their branches grasping together to form the vaulted arc of a cathedral arch with its myriad glints of dancing sunspots breaking through fluttering leaves, like the blinking of tiny frosted electric lights. On we floated to an altar of Nature's grandeur, while the slight slow wind played a benediction on the low flute reeds as we slowly approached an "island" covered with huge red roses.

Truly, this is Paradise South, where the bitter struggle of life and scorching memories can be laid aside while the sweetness of romance beckons and holds captive.

TRADEWINDS

FILMO SILENT PROJECTORS NOW RUN SOUND FILMS

Bell & Howell announces that sound films now may be run on all new 16 mm. Filmo silent projectors. The sound, of course, will not be reproduced, but there is now open to owners of this popular projector a vast new field of entertainment and educational films. No longer, says B&H, need the owner of silent equipment be prevented from enjoying interesting and instructive films available only in sound versions.

New Recreational and Educational Film Catalogs, listing and describing both sound and silent films, have just been released by the Filmosound Library.

For further particulars on both projectors and films, write to the Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

NEW BURKE & JAMES BOOKLET

The enlarging lens, substitution focusing, correct exposure time, tone balance, photo montage and formulae for enlarging, etc., are a few of the interesting topics in a new booklet offered by Burke & James. Readers of International Photographer may secure a free copy by writing S. Drucker, Burke & James, Inc., 223 W. Madison St., Chicago, Illinois.

AGFA ANSCO ANNOUNCES FINEX

After four years of investigation into the problems of fine-grain development, the Agfa Ansco Research Laboratories have perfected Finex, a new fine-grain developer. Designed especially for the critical and experienced worker, Agfa Finex offers the following advantages: Extreme fine grain, no loss in inherent film speed, convenient ready-to-use liquid form, long useful life with tested replenishment system.

The exceptional results obtainable with Finex Developer are due to the use of an entirely new developing agent which extends developing action deeper into the emulsion layer and reduces the clustering of silver particles, thereby resulting in smoother, finer grain with no loss of inherent film speed.

The complete unit containing 16 ounces of Finex developer, two eight ounce bottles of replenisher, a graduated cup for measuring and 24 page booklet on fine grain processing are available through regular dealers at $2.75.

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AGFA ANSCO'S NEW BOOKLET

Agfa Ansco's latest publication—an 80-page, illustrated booklet titled "Choosing Film for Your Camera"—has just been issued and is now being distributed by photographic dealers throughout the country.

"Choosing Film for Your Camera" is available at regular photographic dealers at 25c per copy, or may be obtained direct from Agfa Ansco, Binghamton, New York.

AGFA ANSCO IMPROVES SERVICE TO CENTRAL STATES

In order to supply photographers in the central states with better and more rapid service on its products. Agfa Ansco is reorganizing the sales territory which has been served by its Kansas City branch. This move will permit faster delivery of Agfa Ansco products to customers in New Mexico, Oklahoma and Arkansas by supplying them through the Agfa Ansco branch in Dallas, Texas. Users of Agfa Ansco materials living in Colorado, Nebraska, Wyoming, Kansas and Missouri will experience improved service, as they will be supplied through the Agfa Ansco branch in Chicago, Illinois. The Agfa Ansco branch office in Kansas City is to be discontinued.

Concurrent with this shift in distribution, Agfa Ansco is raising its sub-branch at Dallas to full branch status and moving it from the present address at 2025 Commerce Street to new and larger quarters at 425 South Field Street.

B&H REELS IN COLOR

The trend to color, so dominant among amateur photographers who make their own movies, is reflected also in the newer offerings of film rental libraries. Especially those catering to the growing section of movie makers who supplement their own films with those rented from professional sources, are going in for color.

A new supplement to the FILMOSOUND Library Catalog brings the total of titles included under the "OUR COLORFUL WORLD" series to thirty-seven single reels, for the most part silent, dealing with various geographical regions. The list includes a series of five on National Parks, one on Indian life today, and one on Porto Rico.

There is also a series of nine new reels on wild life, with several more in preparation. These deal mostly with birds, each reel covering either a single species, such as the Golden Eagle, White Pelican, Humming Bird, etc. . . . or a habitat group, such as the birds grouped respectively, at an inland lake, a mountain meadow, and the ocean shore. Earlier listings include some twenty reels on travels in Mexico, Canada, Central America, Africa and the South Seas.

A total of twenty-seven cartoons in natural color is also offered, as well as other subjects as far apart as agriculture and Shakespeare. The new single-reel cinecolor version of MACBETH has been very favorably received at visual instruction conferences where it has been previewed. Practically all color films rent for from $2.50 to $3.00 a reel.

GRAPHIC PAN TILT TRIPOD HEAD

Because the combined camera base and revolving-tilting tripod head built integrally with the Graphic View Camera was received with such favor by the photographic public, the Folmer Graflex Corp. is now marketing a similar tripod head for use with any camera ordinarily mounted on a portable, folding tripod. This new product, known as the *Graphic Pan-Tilt Tripod Head*, is light, solid and flexible. It tilts 100° forward or 25° backward, and rotates a full 360°.

This new unit will fit into the Speed Graphic Special Carrying Cases (which accept a tripod), the Crown View Camera Case, and the new Speed Graphic DeLuxe Cases.

Both the rotating and tilting movements are controlled and locked by a single handle with a black, extruded plastic grip. The head is so designed that it may be half-locked with sufficient looseness to permit minor adjustments of the camera angle, and a slight further turn completes the locking without any change in the camera's position.

The adjustable camera-clamp screw, pioneered by Graflex many years ago, is further improved by larger grips and by the addition of a spring to keep the clamp-screw in the *up* position so that insertion of the screw in the camera's tripod socket is greatly facilitated.

The top of the Graphic Pan-Tilt Tripod Head is 2⅛ inches square and the circular base has a diameter of 3½ inches, these broad surfaces furnishing great stability and solidity when a firm tripod is used.

CAMERAMEN ON WILD GOOSE CHASE

It may be a wild goose chase and it may not.

At any rate, 20th Century-Fox sent a special camera crew of five aloft in a chartered plane to photograph several flocks of wild geese flying in their typical wedge formation. The shots are needed in the picturization of Stewart Edward White's novel, "Wild Geese Calling," which has just gone before the cameras at the studio with Henry Fonda and Joan Bennett in the major roles.

The plane is piloted by Marion McKeen, a veteran speed, stunt and commercial pilot. He will fly the ship first to Oregon and if the necessary footage cannot be obtained there the party will be ferried to Utah for a further attempt.

The major problem, it was pointed out by both McKenn and Leon Shamroy, who heads the camera crew, will be to approach the geese at sufficiently close range to get some good shots and yet not frighten the birds so that they break formation and scatter.

"But any way you look at it," said Shamroy, "it will be a wild goose chase."

RKO Completes First Block-of-Five

With its first block-of-five for 1941-42 ready for preview screenings for delegates now attending RKO Radio's Tenth Annual Sales Convention in New York City, the studio is working well in advance of schedule in preparation for market showings and sales under the terms of the new consent decree.

Included in the quintet are some of the outstanding attractions of the new Hollywood crop. Among them is "The Devil and Daniel Webster," "Father Takes a Wife," "Before the Fact," and "Parachute Battalion," depicting the newest and most spectacular arm of Uncle Sam's defense forces, the parachute infantry. Public interest in this picture has been tremendously stimulated by the sensational accident at San Diego which recently grabbed off the headlines, when a chute's shroud lines became entangled in the fuselage of the plane and a breath-taking rescue of the dangling parachutist was effected. An almost identical episode was filmed as one of the thrilling sequences in "Parachute Battalion," which oddly enough was completed long before the San Diego episode occurred.

Director Mayo Offers Services to Uncle Sam

Although he is at the top of his Hollywood career, Director Archie Mayo expects to abandon the film town "for the duration" as soon as he is finished with his current 20th Century-Fox assignment, "Charley's Aunt," in which he is directing Jack Benny and Kay Francis.

Mayo has already offered his services to the U. S. Army to head entertainment units, a post which he is fully equipped to handle.

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PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,238,497—Sound Camera. *William E. Merriman*, assignor to Eastman Kodak Company. Appln. Oct. 14, 1939. 15 claims.

A sound camera in which the sound drum shaft is first connected to the drive means to bring it up to speed, and then disconnecting the shaft and drive means, and connecting the drive and film feeding means.

No. 2,238,517 — Photographic Developer. *William H. Wood*, assignor to Harris-Seybold-Potter Company. Appln. June 6, 1939. 3 claims.

A process of developing photographic images and hardening the gelatinous surfaces with a silver halide developer in the presence of a potassium sale embodying potassium pyrophosphate.

No. 2,238,629 — Method for Stereoscopic Scanning of Pictures. *Jacob U. Deninson*, New York. Appln. April 24, 1937. 2 claims.

A method of producing stereoscopic projection of motion pictures by the use of a single film, the film having side-by-side pictures which are alternately projected.

No. 2,238,733-35—Recording and Reproducing Sound. *Erik Waldemar Hullegard*. Stockholm, Sweden, assignor to Radio Corporation of America. Appln. Mar. 17, 1938. In Sweden March 23, 1937. 4 claims.

A sound record of the photophonographic type including a film having images of opposite half cycles of sound waves thereon in different colors, and an opaque background surrounding said wave images.

No. 2,238,917—Sound Recording System. *Oscar A. Ross*, New York, N. Y. Appln. July 15, 1937. 8 claims.

A method of sound recording in which a record is made of the frequency and amplitude of the sound waves while a second record is made of their amplitude only, and re-recording the sound while varying its amplitude by means of the second record.

No. 2,238,996 — Sound Track Cleaner for Motion Picture Film. *Roy J. Fisher*, assignor to Harold J. Nagle, Roy Fisher and Nelson H. Copp, all of Rochester, N. Y., as joint trustees. Appln. Dec. 1, 1936. 7 claims.

A device for cleaning a film while the latter is in motion, and comprising a pair of rotatably mounted cleaning members bearing against the film.

No. 2,239,380—Slating Device. *Daniel Bryan Clark and Grover Laube*, assignors to Twentieth Century Fox Film Corporation. Appln. Jan. 16, 1940. 8 claims.

A slating device for motion picture cameras and having a housing adapted to be inserted between the camera and its magazine, with a compartment in the housing to receive indicia, and means to project a moving image of the indicia on the moving film.

No. 2,239,532 — Film Tempo Punch. *Royal C. McClay*, assignor to Warner Brothers Pictures, Inc. Appln. Oct. 24, 1938. 15 claims.

A device for intermittently feeding film from one reel to another and punching the film while it is at rest.

No. 2,239,698—Photographic Element. *Burt H. Carroll*, assignor to Eastman Kodak Co. Appln. Feb. 20, 1940. In Great Britain March 9, 1939. 7 claims.

A film having a base, an emulsion sensitized to green light with a sensitizing dye, and a blue sensitive emulsion containing a dye which adsorbs to the silver halide in the layer and imparts substantially no extension to the spectral sensitivity of the layer.

No. 2,239,699—Prevention of Diffusion of Sensitizing Dyes. *Burt H. Carroll*, assignor to Eastman Kodak Company. Appln. Feb. 20, 1940. In Great Britain March 9, 1939. 10 claims.

A photographic silver halide emulsion sensitized with a quaternary ammonium salt sensitizer and containing a perhalogenate salt other than a quarternary ammonium perhalogenate.

No. 2,240,131—Arrangement for Securing Stereoscopic Cinematographic Projections. *Suzzane Carre, nee Berment*, France, assignor to Societe a Responsabilite limitee dite: La Cronos-tereoscopic, Paris, France. Appln. March 18, 1938. In France March 23, 1937. 1 claim.

A device for obtaining stereoscopic pictures by alternately projecting right and left images through a screen and simultaneously moving a grid back and forth between the screen and the spectators.

No. 2,240,398—Cinematography. *Lionel Hubert Huitt*, Rangoon, Burma, British India. Appln. April 21, 1939. In Great Britain June 28, 1939. 16 claims.

A movable screen in a motion picture camera, the screen permitting a small sharp image to be formed, with increasing diffusion away from the sharp image, and movable by the operator of the camera.

No. 2,240,703 — Projector for Stereoscopic Pictures—*Fritz Kober*, assignor to Zeiss Ikon Aktiengesellschaft, Germany. Application February 16, 1939. In Germany, Feb. 22, 1938. 4 claims.

A projector for stereoscopic pictures having a polarizing filter over each half of objective lens, and a pair of prisms to deflect the differently polarized images so they are superposed on the screen.

No. 2,240,844—Picture Projection. *Jeremiah F. Goggin*, Moline, Ill., and *Ray E. Hall*, Davenport, Iowa. Application May 21, 1938. 3 claims.

A method of projecting pictures which uses phosphorescent screen which glows with the image of the preceding picture while the next one is being moved into projecting position.

No. 2,240,728 — Stereo Camera. *Otto Vierling*, Dresden-Blasewitz, and *Fritz Kober*, Dresden, Germany, assignors to Zeiss Ikon Aktiengesellschaft, Dresden, Germany. Application Nov. 17, 1938, Serial No. 241,065. In Germany Nov. 19, 1937. 3 claims.

A stereoscopic projector using polarizing filters and having prisms which superpose the images on the screen without the formation of secondary images.

No. 2,241,104 — Process and Apparatus for the Treatment of Photographic Coatings. *Lodewijk Pieter Frans van der Grinten*, Venlo, Netherlands, assignor to Naamlooze Vennootschap Chemische Fabriek L. van der Grinten, Venlo, Netherlands. Application April 22, 1939, in the Netherlands, Jan. 19, 1939. 25 claims.

A method of developing or fixing films by the "semi-wet" process in which the film is subjected to a number of closely spaced fine sprays of treating liquid.

No. 2,241,124 — Printing Method for Color Photography. Otto C. Gilmore, assignor to Cosmocolor Corporation, Jersey City, N. J. Original application May 25, 1939. Divided and this application Dec. 7, 1939. 5 claims.

A method of optically printing a film having two smaller, complete images of different color values in a single frame, the method including printing one set of images on one side of duplitized film and then reversing the images of the other set and printing on the other side of the film.

No. 2,241,239—Ultraviolet Light Filter. *Burt H. Carroll* and *Cyril J. Staud*, assignors to Eastman Kodak Company, Rochester, N. Y. Application Jan. 19, 1940. In Great Britain, Jan. 23, 1939. 10 claims.

A film affected by ultraviolet light which has a colloidal material which acts as a filter on the film.

No. 2,241,413 — Photographic Printing Process and Image for Use Therein.

A method of printing color photographs in which there are at least two color value images, one of the images being a composite double-colored image.

No. 2,241,519—Photographic Material. *Louis Pollak*, Altrincham, Cheshire, Eng-

land. Application May 20, 1937. In Great Britain, May 23, 1936. 7 claims.

A film having two emulsions sensitive to different parts of the spectrum, one of the emulsions being hardened so as to be substantially insoluble in warm water, and the other emulsion being soluble in warm water and forming only a weak image after normal exposure.

No. 2,241,689—Cinematographic Apparatus. *Lloyed E. Whittaker*, assignor to Technicolor Motion Picture Corporation, Los Angeles, Calif. Application May 31, 1939. 1 claim.

A drive for a film take-up reel in which the driving force applied to the reel is progressively increased as the diameter of the roll of film increases.

No. 2,241,929 — Production of Motion Pictures of Three-Dimensional Animated Objects. *Albert C. Kendig, Jr.*, Los Angeles, Calif., assignor of one-third to Fred W. Clampett, Los Angeles, Calif., and one-third to Robert E. Clampett, Manhattan Beach, Calif. Application March 23, 1939. 13 claims.

A method of producing motion pictures in which a series of images of an animated object is projected, an object is posed so that its shadow registers with the images, and the object is photographed.

No. 2,242,567 — Manufacture of Translucent Screens. *Bernard M. Bodde*, Hollywood, Calif. Original application, November 22, 1935. Divided and this application June 6, 1938. 7 claims.

The method of making a sheet of cellulose ester material which comprises spraying multiple coats of a solution of cellulose ester material upon the under surface of a substantially horizontal matrix, allowing the sheet thus formed to dry and stripping said sheet from said matrix.

No. 2,242,574—Producing Apparatus for Sound Picture Films. *John Eggert* and *Hans Friedrich* Nissen, Germany, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Application May 19, 1937. In Germany May 23, 1936. 3 claims.

A reproducer for sound films, having optional paths, one for a film reproduced by the copying method, and the other for a film developed by the reversal process.

No. 2,242,666—Camera. *Thomas J. Walsh*, West Hempstead, N. Y., assignor to Patrick Nardell, Bronx County, N. Y., and Joseph Ladaga and William L. Morris, both of New York, N. Y., jointly. Application March 29, 1938. 10 claims.

A camera having a stationary long shot lens and a stationary close-up lens with means for rendering either of them effective and the other ineffective, and interconnected finder lenses which correspond to the fields of the objectives and are rendered effective and ineffective with them.

No. 2,242,747—Tripack for Producing Photographic Pictures. Walter Frankenburger, Cuba, Max Herbst, and Hermann Schulz, Germany, assignor to General Aniline & Film Corporation, New York, N. Y. Application Jan. 11, 1939. In Germany Jan. 19, 1938. 7 claims.

A tripack having a top layer sensitive to red, a second layer sensitive to green, and a bottom layer sensitive to blue, with a filter between the second and bottom layers which absorbs at least 60% of the light having wave length 5000° A and a still greater percentage of light of longer wave length.

No. 2,243,047 — Control Method and Mechanism for Photographic Printers. *Warren Dunham Foster* and *Earle L. Parmelee*, deceased, assignors to Kinatome Patents Corporation, Ridgewood, N. J. Application Sept. 24, 1934. 28 claims.

A continuous printer in which both the light emitted by a printing light, and the capacity of source to emit light may be changed to modify the effectiveness of the light.

No. 2,243,048 — Control Method and Mechanism for Photographic Printers. *Warren Dunham Foster* and *Earle L. Parmelee*, deceased, assignors, to Kinatome Patents Corporation, Ridgewood, N. J. Original application Sept. 24, 1934. Divided and this application Sept. 21, 1934. 19 claims.

A continuous printer in which the light emitted from a source may be changed, and the speed of film may be changed to produce changes in the printed density.

No. 2,243,212—Support for Motion Picture Projection Machines or the like .*Albert Kindelmann* and *Claude A. Soehl*, assignors to International Projector Corporation, New York. Application April 29, 1937. 13 claims.

A pedestal which has an arm supported for vertical tilting movement about a horizontal axis, and a screw of limited length which may be inserted in a plurality of positions to provide adjustment of the tilting in different stages.

Cartoon photography

(Continued from page 10)

our cartoons we made from the Technicolor positive a three successive frame negative strip by rephotographing each frame through the three color separation filters changed by hand from frame to frame. A rather laborious and tedious procedure, but nevertheless successful.

Black and white positives have likewise been copied in Technicolor by the same process, color being added to the black and white picture by tinting the light with color filters.

Many cartoon scenes require special effects in the way of double or multiple exposures, which presents a fascinating problem to the cameramen. Inasmuch as each frame is accounted for in the timing of a cartoon and the camera is equipped with a feeder counter and kept in gear at all times and can be operated forward or in reverse, the cameraman can wind back to any particular frame and make what double exposure the scene requires. In many cases for special effects such as double exposures, light effects, multiple exposures, or montages the film has been through the camera as many as ten or twelve times, each time receiving whatever exposure is required before the film is finally taken out of the camera for development.

In this respect animated cartoon photography is unique in that all these effects, as well as dissolves, wipe offs, fades, split screens, etc., are made in the camera at the time of photography and not added later by optical printing or in the laboratory.

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Exposure Meter

(Continued from page 18)

reading. Pictures taken without a reading of this type expose the scene just about as the eye sees it, and many times the result is under-exposure of the subject. Hand measurement is also a useful device in taking sport pictures. For example, if you want the detail of a skier coming over an extremely bright foreground, take a reading off the back of your hand held in the light the subject will appear in. The measurement can be taken, camera adjusted, and proper exposure can be obtained when the subject is in position. This is a good method to remember for all types of candid shots, too.

For indoor work there are two methods of measuring light. The reflected light method can be used with brilliantly-lighted photoflood scenes. However, the reading should be taken close to the subject to overcome the tendency to over-expose caused by the dark background.

The incident light method is very accurate and convenient in taking indoor pictures. It indicates an average over-all exposure and the best results are obtained. Under certain specific conditions the incident light method will give the better color film exposure. Since the photoelectric cell is more sensitive to the blue colors than the red in the spectral response curve, a more accurate exposure can be obtained when the color of the subject does not influence the meter. In the case of a flower, for example, a reflected light measurement of the scene would cause an over-exposure of the flower portion because the exposure meter attempts to balance the exposure for the dark green leaves that surround the scene plus the flower. In most cases the flower is the main part of interest, and the leaves of secondary interest. Therefore, an exposure obtained from a reflected light reading will cause the flower to photograph lighter than it normally should, and will cause the dark green leaves to photograph a lighter green than they are. Therefore, we can obtain a truer photograph by measuring incident light.

With the directional hood removed, the G-E meter can be used very effectively to balance lighting and measure the difference between the highlights and the shadow reading of the subject and scene. This facilitates special effects obtainable by controlling the illumination. For color film work it is easy to keep the ratio between the high and low-light portions as 4 to 1, or at the 2 to 1 ratio for best results. The same thing can be done for black and white work. For example, a high key photograph can be lighted and controlled by measuring the light to keep a ratio of 2 to 1. An average scene will be 4 or 5 to 1 ratio. Special effects, low key and high contrast pictures can be made by making the illumination as high as 10 to 1, or 12 to 1.

Some outdoor scenes can have a ratio of 128 to 1 but the average photographic paper can only print a range of 30 to 1, so that even though we have a great range on our films, it is impossible to reproduce this full brightness range in the final print. The sensitive curve of the paper of course, can be made to somewhat approach that of the photographic film by means of dodging when an enlargement is made. This actually reshapes the H and D curve of the paper by stretching and bending it around until it more nearly fits the H and D curve of the film. On the average scene this special work is not necessary; but in some conditions a better print will result when the two H and D curves are more nearly matched by dodging when the enlargement is made.

This is by no means the end of the exposure meter's usefulness. With hood removed it can be used to measure light transmitted through a negative for correct exposure in printing or enlarging. Numerous variables that are encountered in printing prevent a calculator as simple as is used with films being made for paper. Photographic paper is inclined to vary more than photographic film and secondly, paper developer formulas are more varied than film formulas. Last but not least, the personal element must enter in as to the type of print the operator desires. This is something that cannot be measured and to compensate for this unknown, it is necessary to take a reading on the first negative and make a test print. This gives us complete allowance for all of these variables. For example, if the first negative reads 10 and the test time is 20 seconds and the next negative reads 5 on the meter, the required time would be 40 seconds, i.e., 10 times 20 over 5 equals 40. It is very easy to go through an entire row or group of negatives and determine quickly the correct exposure time. Use the formula—first meter reading times test-time over the meter reading of unknown equals the new printing time. By using this accurately and consistently you can produce prints of the same quality as determined by the first test print. This same method may be used when a contact print is made. To determine exposure time when contact printing, place the meter cell face down on the negative in the contact printer. Make two or three measurements to determine average density. To follow this procedure when making



Tones in a scene such as this may cover eight F stops, as shown.

enlargements, the meter should be held close to the lens of the enlarger to get an over-all average measurement of the negatives. A meter held on the baseboard of the enlarger will not give the correct over-all average.

To use the meter to determine correct paper grade for a negative, fit the photoelectric cell with a small mask. Take a light source such as a gooseneck reading lamp, and hold it above the light meter. The negative can then be placed on the light meter and the darkest and the lightest part of the negative measured. Roughly, if the negative has a ratio of 10 to 1 a contrasting or hard type of paper should be used. If the ratio is about 20 to 1 a medium-grade paper will give the best results. A contrast range of 30 to 1 will require a soft grade of paper. Since there are certain variations in different makes of paper, this ratio may not hold exactly. However, a complete range of paper speeds are shown in the Photo Data Book which comes with each G-E meter, so that each make of paper can be measured and fitted to the negatives.

For color printing, the meter can be used as a simple densitometer. A smaller hole should be made for a photoelectric cell mask and a brighter light source used to measure the grey scale. In this way all three negatives may be quickly compared. To determine the exact density of a negative, read the meter without a negative over the cell. Divide the reading by the number obtained when the negative is placed over the cell. This gives the opacity. Density is the logarithm of opacity.

Darkroom application of the exposure meter does not stop here. Should you wish to make negatives of Kodachrome film the exposure meter is held up against the Kodachrome, and the scene brightness is measured by the meter. The calculator can then be set the same as for outdoor use to determine the proper exposure. For Kodachrome use No. 213 enlarging lamps or #1 photofloods to obtain correct color temperature. This system is of sufficient accuracy so that you can use Kodachrome film to duplicate a Kodachrome transparency. The meter should be held against the transparency with Type A Kodachrome placed in any suitable device for holding the film. The original transparency is then projected to make the duplicate using the calculated exposure. The result will be the same quality as the original. Occasionally, by slightly modifying the exposure, duplicates can be improved over the original. This method can be used to modify the composition on enlargements and will give the same effect as a telephoto lens.

These are some of the ways your exposure meter can help you get better pictures. The more you use it, the more indispensable it will become to you. And as a constant companion in all phases of your photographic work, it will help you make good results a habit.



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They Say---

By RELLA

● Off to Fort Knox, Kentucky, for purposes of filming army tank maneuvers in color are Bert Glennon, first cameraman; Ellsworth Fredericks and Wesley Anderson, second cameraman; Nelson Cordes and Duke Callahan, technicians; Eddie Wade and Rod Tolmie, assistants; and Fred Morgan, still cameraman.

● The boys in the Newcomb department at MGM are now devoting all their time to matte shots on the guitar.

● Bill Eglington, RKO camera department executive, used to shoot stills, was a first cameraman and at times directed. Thus we can understand Bill's expert judgment in acting as critic in his berth.

● Francis J. Burgess, Paramount assistant cameraman, now in the United States Army, located at Sixteenth Air Base, Stockton Field, Stockton, Calif.

● James V. King, Recording Secretary of Local 659, was a banker in his youth.

● John Burton, of Schlesinger, conceives and designs many of the main titles we see in pictures.

● Off to Florida again for background shots for the new Tarzan picture are Lloyd Knechtel, first cameraman; A. Linslay Lane and Herold Baldwin, second cameramen.

● Off to Arizona on Wanger's new production are Charles Lang, first cameraman; Curley Linden, second cameraman; George Belisario, Paul Cable, Charles Russell, assistants; and Eddie Henderson, still cameraman.

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● Irving Ries, of the Ries Department, is a master pilot with many wins to his credit in boat racing in Southern California. We look to see an engagement between him and some of the boys of Vern Walker's department, who are also skillful in the same sport.

● Cliff Stine now shooting first camera at RKO Studios.

● Joe MacDonald shooting first at 20th Century-Fox.

● Bill Draper in his spare time is supervising a machine shop on defense work.

● Lee Garmes, who photographed "Illusion" for Korda, also is associate producer on the same production.

● Philip W. O'Neil is now a First Lieutenant in the Corps Area Service Command, Signal Corps, Unit 1900, at the Presidio, San Francisco.

● Tod La Clede soon will have to keep his constant companion, a beautiful chow, off the best chairs at home. He will be married to Clara Nibert in the not distant future.

● Robert Rhea is under new management, having recently married Phyllis Cottrell.

● It's a close race for first place as best dressed assistants, with Mike Doyle, Louis DeAngelis and Freddie Anderson as contestants.

● Norman Alley and Paul Ivano palling around in Buenos Aires, talking over how things are going in good old Hollywood.

● Paul G. Vogel, MGM cameraman, photographed and directed a Pete Smith Short dealing with army life, to be released shortly. By coincidence Vogel was in the Photographic Corps during World War No. 1.

● Off to the Georgia swamps are Lucien Ballard and Joe McDonald, first cameramen, Twentieth Century Fox, with assistants Lee Crawford and Jack Epstein.

IN THE MAIL

"U. S. Naval Air Station,
Pensacola, Florida.

"Dear Herb:—I know I'm a little slow in getting around to my correspondence, but here's a line to let you know that I'm still here and flying about a half day and six days a week. The rest of the time has been spent in ground school with nights and Sundays for studying. In fact, the schedule is so efficient for taking up all our time that some of the boys are thinking of making a break for it over the south wall. The local Chamber of Commerce calls it the "Annapolis of the Air" and the Cadets call it the "Alcatraz of the Air."

"Anyhow it's all in fun and for our own good that we are getting these tough courses in navigation, aerodynamics, etc. In six or seven months they have to make pilots, naval officers and radio operators out of us, which after all is a pretty big order.

"The flying has been swell. About three-fourths of the time is solo work and for the past couple of weeks I've been working on acrobatics and what I mean, everything in the book.

"In spite of all the work we seem to have a pretty swell time of it, especially when we get into our white uniforms and step out. We have a complete set of officers' uniforms and a lot of their privileges . . . which makes up for the long hours.

"All of the old buildings have been torn down, with the result that we have practically a new station. Blocks of "colossal" new buildings have been put up everywhere. There's a fleet of sailboats for us to use and a big riding stable, so as soon as I finish school in another month I'm going to get in there and pitch.

"Bill Cline, Will Cline and Freddie Detmers stopped in to see me on their way back from "The Yearling" location. It surely made me homesick when they pulled out on the train for Hollywood. It's good to know that things have been going well and pictures are still being made.

"I'll write more, Herb, when I can get a little time ahead. Please convey my best wishes to the boys. I'll try to get an interesting article for the magazine in the near future.

"Shall hope to see you in about four months if I'm lucky.

Sincerely yours,
BOB HAGER."

Irwin Shaw at Warner Bros.

Irwin Shaw, noted playwright, has arrived at Warner Bros. to turn his original story, "The Hard Way," into a screen play for Ida Lupino. Shaw's most recent Broadway success was "The Gentle People," which was filmed by Warners as "Out of the Fog," with Ida Lupino, John Garfield, Thomas Mitchell and John Qualen.

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-3 (Type 127) Approximately twice as fast as Superior-2, still this film retains a remarkably fine grain size. It is ideal for cinematography under adverse lighting conditions.

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Vol. XIII August, 1941 No. 7

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I.P.E.U. BROWN-CALDWELL

Congratulations, S.M.P.E.

Twenty-five years ago at the first meeting of the Society of Motion Picture Engineers, with an attendance of twenty-six persons, it was not dreamed that the Society would now number close to 1300 members, in all parts of the world.

The motion picture industry has greatly benefited through efforts of the S.M.P.E. which during all these years has not lost sight of its object:

"Advancement in the theory and practice of motion picture engineering and the allied arts and sciences, the standardization of the mechanisms and practices employed therein, and the maintenance of a high professional standing among its members."

Congratulations, Society of Motion Picture Engineers, on your Silver Anniversary.

A Matter of Identity

Last month in this space we ran a picture of "Shack" and "Jack." With editorial courtesy we mentioned "Shack" first, even though "Jack" appeared at the left of the picture. As a result James B. Shackelford ("Shack") has been the target of a lot of joshing and asks if we will please identify him in the picture as "the one with the short ears."

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"ON THE BEACH"

By William Mortensen

WHEN TO USE INFRA-RED FILM

By Theodore Sparkuhl of Paramount Pictures

Theodore Sparkuhl was born in 1894 in Hanover, Germany. He graduated from Lyceum I at Hanover, studied medicine at Heidelberg and Bonn, but was compelled to discontinue on account of finances.

He started in the motion picture business with Leon Gaumont in Paris in 1912, became a news cameraman in 1913, and was sent to Berlin for Gaumont Paris.

Sparkuhl started as first cinematographer in studio work with Eikofilm, then Eclair Paris, went at the outbreak of war to Berlin, was drafted as a cinematographer in Russia, France, Austria, Bulgaria, Greece and Turkey. Early in 1918 he was transferred to UFA, Berlin, and stayed with that firm until 1928, photographing practically all of the Lubitsch Pictures.

He went to England in 1928 for BIP and stayed until 1930. In the fall of 1930 he returned to Paris and worked for Braunberger-Richebe at Billancourt. He applied for the American Quota in Paris and sailed for the United States in December 1931. He was admitted to Local 659 in April, 1933, and has worked at Paramount ever since, photographing about 45 pictures in that time, the more recent being "Hardboiled Canary," "Rangers of Fortune," "The Light That Failed," "Rulers of the Sea," "If I were King," "Wells Fargo," etc.

He became a citizen of the United States in 1937 and was married on one of his film trips to Europe. He has five children, three boys and two girls, the oldest being an interne at General Hospital, Los Angeles. Sparkuhl has finished his medical studies while in pictures and during the war was used as news man and surgeon simultaneously.—(Editorial Note).

This little article is written to help the cinematographers and still photographers who have not had sufficient experience in the application of infra-red film, to help them understand its beauty for certain effects, its possibilitics—and the headaches they may get by using it.

Primarily, infra-red film, as the name implies, does not have a panchromatic emulsion; in other words it is not sensitive to all colors of the spectrum. It has an emulsion which to a great extent cuts out the blue rays, if used with a red filter such as F-29 and 25.

There are several types of infra-red film on the market, but the Pan K of Eastman and the Infra D of Dupont are the ones generally used professionally. The Pan K has a tendency to create very eerie effects, especially in the rendition of foliage, which turns very bright. The Dupont Infra D, while having the same general quality, does not turn the greens, such as foliage, as light, but keeps them more subdued.

It depends largely upon the individual judgment of the cinematographer as to which film he should use for the requirements of the scenes to be photographed for night effects. In one of my recent pictures I was confronted with the necessity of creating rather odd and mysterious effects in the day time. The action took place around a cemetery, under trees, but it had to be daytime. After making some tests, I decided to use infra-red film with a very light filter, No. 21, in addition to which I used fog filters and Schiebe Diffusion. The effect approached perfection. So you see that infra-red may be used for certain day effects. One has to be particularly careful in lighting the actors, because infra-red film has a tendency to render your picture in much higher contrast than you seem to see with your own eyes. The make-up of lips, for instance, has to be more on the brown side, with no red in it, lest you want the lips to appear lighter than the skin!

The overall sensitivity is practically the same with both types of films, about 24 Weston. By using a 29 F filter I found the best density in the developed negative by allowing only two to two and a half stops from the daylight value. A great deal depends upon the freshness of the emulsion you use and I have always found it safe to test emulsion furnished by my company before actually shooting it on production.

While it has great advantages for night effects, infra-red film should by no means be looked upon as a cure-all! It should be used *only* on outdoor shots where it is important to enhance the beauty of the landscape and where it would be impossible to light the scope of your shot artificially. In many cases I have found it disastrous where some ambitious business manager decided to use infra-red film to save the artificial lighting of a shot or sequences which would very well have been lighted with much better results. I remember a few years ago when infra-red film came into vogue that the studios wanted to take advantage of existing sets on their back lots for both day and night effects, photographed in the daytime, without repainting the sets. So extensive tests were made to determine what color the sets should be painted to give the most even effect if photographed in daylight with the regular panchomatic film and also for night effects with infra-red. The color that gave the best effect was a gray-blue, but several disadvantages popped up in that infra-red can be used successfully only if photographed under proper light conditions. As this necessity was too great a risk on the budgets, business managers have abandoned this way of shooting more and more and have come back to the artificial lighting of existing street sets to be photographed either at night or under diffusion blacks.

In using infra-red film the cinematographer should be given free hand to pick his angles, because he is the one, and the only one, to decide whether he can get the expected result from such and such an angle. The light should always be cross-light, favoring the faces of the actors. It might be slightly back-cross with enough reflected light filled in, but never should it be a direct back light, because the haze of your back-light overpowers whatever blue there is left in the sky. As a result you cannot expect your sky to go dark.

Great care should be taken not to shoot infra-red too late in the day, because the sunlight goes redder toward late afternoon and as a result your film will appear to have much more contrast than during the morning or early afternoon shots.

It is very important to work hand-in-hand with the laboratory when working on infra-red sequences, because in the heat of the battle you may be induced to shoot longer than you really should or you might run into a situation which in itself might not be very favorable to infra-red film, but which might be corrected, or at least helped and improved by shortening or extending the developing time.

Quite frequently one is in a position where it is necessary to change from infra-red to the regular film, especially in scenes where it is necessary to break up your long shots and move in for the closer action scenes with the actors. Personally I prefer to go over to regular film for these shots if it is possible to avoid the sky, or at least to avoid it to some extent. With a combination filter such as 23-56, or 25-56, you will find that the quality of the faces of your actors will be much more natural than with the infra-red film. But extremely careful judgment on your part is necessary. Furthermore, be on the lookout for dresses or costumes which have red in them. Watch for this right from the start of the picture, or you and your studio are apt to have some shocking surprises. I remember one dress on an actress. It didn't seem to have red in it at all, but when we saw the rushes we almost died, for it looked as if she were running around in a nightgown. The reason? She wore a fiery-red slip under her knitted dress, not visible to the eye, but the infra-red looked right through it!

So be careful in using infra-red film and exercise good and cool judgment. Results obtained in "The Light That Failed" are due only to fair breaks, planning and good judgment.



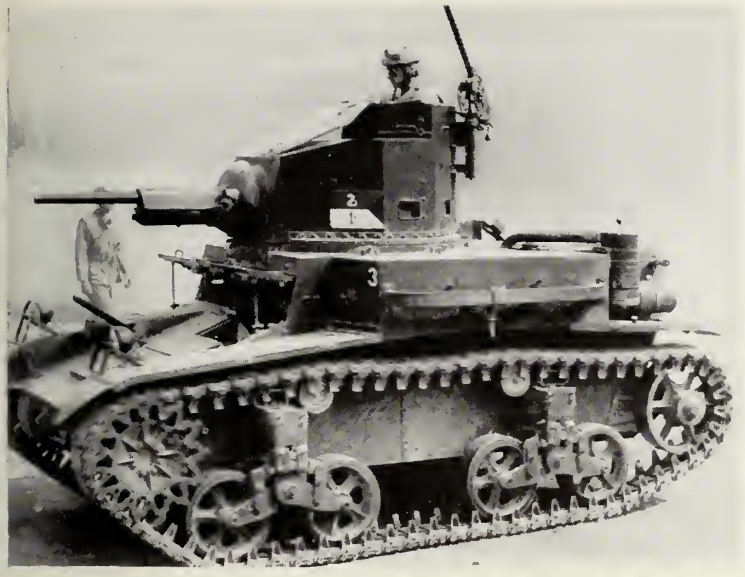










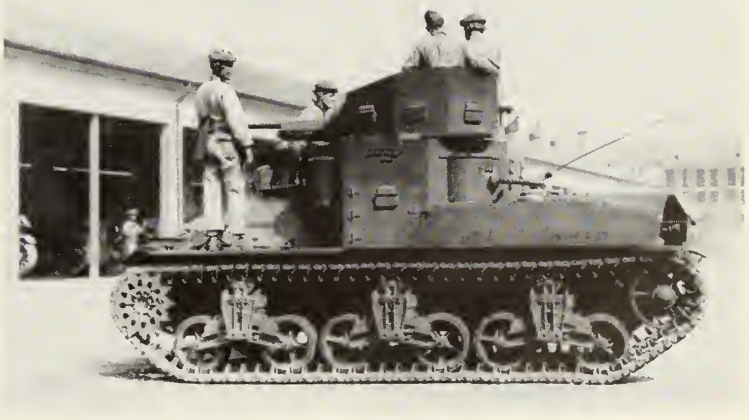












"THE TANKS ARE COMING"

By Fred Morgan,
Warner Bros. Still Photographer

And if you don't believe it, hie yourself to Fort Knox and see for yourself. It will be an education you won't soon forget.

Warner Bros. decided that Mr. and Mrs. Citizen should know all about what our army is doing and, in order to "put it over," figured a moving picture made in color on the spot would tell the story as it should be told. Consequently, the various studio departments were set into motion and, shortly, Warners' camera chief, Mike McGreal, had two Technicolor crews rounded up and on the way to Fort Knox.

Breezy Eason, assigned to direct, and Bert Glennon, chief cinematographer, had to fly down so they could line up the shooting schedule in such a way that it would not slow up the training of mechanized troops. The rest of the gang went by train from here to Louisville, Kentucky, and then thirty miles out to where Fort Knox is located. It amounted to three days of a hot, boresome ride through ten states, then off the train at eleven P. M. in a pouring rain and no familiar faces to guide us to a place to sleep.

It wasn't long, though, until out of the darkness strode a little fellow in a Colonel's uniform and behind him was a Sergeant, the biggest man I've ever seen. He took one look at the huddled bunch of lonesome, wet movie-makers and bellowed, "Fall in, you guys." Andy Anderson, camera operator, being an ex-war vet, finally figured he meant us, so we fell in and down and everything else that could be anything but military.

"Forward march!" bellowed our friend. So we started with suitcases, portable radios, hat boxes and what-not, a sorry-looking sight, all out of step and loaded down.

We went the length of a box car where there was a light, and the order came to halt. Well, the guys up front halted, but some of the forty-odd others didn't, and arms, legs and suitcases were a pile to behold. Out from behind the box car came Breezy Eason, Bert Glennon and Col. "Jimmy" Jaynes, and then we knew we had been framed. Needless to say, they were in hysterics. However, we were soon housed in very comfortable barracks and sound asleep.

Next morning we were out with the sun and on the playground of the tanks. Acres of rolling hills covered with brush and trees—and dust. Oh, boy, that dust! The camera crews took the beating. Dust was so thick on the lenses it meant stopping shooting until the equipment was cleaned time and again.

Have you ever seen a tank coming at you? Well, you won't forget it in a long time when you do. Twenty-eight tons of massive steel bristling with guns and bearing down on you at 30 or 40 m.p.h.

Glennon assigned Eli Fredericks, operative cameraman, a low set-up in the path of a group of tanks, some to turn out just a few feet in front of the camera. I figured that would be the spot for a real action still picture, so I squatted with Eli and his crew. I stuck it out and got my picture, but that tank was about the biggest monster I have ever seen in dreams or out.

There were tanks everywhere, going in all directions and stopping at nothing. Old barns, trees, canyons, mud holes, fences, hedges, rocks—nothing seemed to worry them. If they couldn't knock down and trample the obstacles, they would just go over the top and down the other side and on. Always they go on.

During the course of the story, it was very necessary to show, head on, what a tank does when meeting these objects. As far as I know, a tank was made into a Hollywood "camera car" for the first time. To Bill Classen, head grip, go the honors for "tying down" a Technicolor camera on a tank, which has nothing but flat, smooth armor plate all over it. He did it and with the camera pointed over the snout of a tank we took off down through the woods and swamps.

I can tell you—but you'd better see the picture—with her nose pointed down into a hole deep enough to bury a house she goes, to the bottom and up out the other side, across a knoll at 30 m.p.h. and head-on into a rock maple tree, twelve inches thick, which explodes into a million bits, flying all over the landscape. After that one, I noticed all the boys feeling the knots in the ropes that tied them on. There is no such thing as roads and as it rained every day there were plenty of mudholes to play in for the youngsters who are learning to handle tanks—and can they handle those monsters of steel!

As to Fort Knox, last November there were a few buildings, housing some fifteen hundred men and officers. Today, there are barracks housing forty thousand men and thousands of pieces of rolling stock—cars, trucks, scout cars, motorized guns and tanks. Schools, schools for everything.

And the men must be fed. Just as an eye-opener, I'll pass on the figures the officer in charge of feeding gave me. The men decided they wanted hot dogs for dinner one night, so he scouted all the big cities around—Louisville, even Chicago—and finally found enough. 30,800 pounds of bow-wows for one meal, along with 40,000 loaves of bread and 17,000 quarts of milk!

Yes, sir, mister, the tanks are coming—and am I glad I saw it all and now realize what our Uncle can do when he sets his mind to it!

Orson Welles' New Picture

Orson Welles is producing, writing, directing and starring in his second picture for RKO Radio. Plans are still shrouded in the secrecy which characterizes Orson Welles' technique. Promises to be even more arresting than "Citizen Kane," which will be one of the early season attractions.

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Left to right: Jean delVal and Gary Cooper; Yanks advance through smoke of battle; more yanks coming up; Gary Cooper and George Tobias on firing line; fighting over a mountain; Joe Sawyer, George Tobias, Jack Rennick and Carl Esmond.













Jesse L. Lasky gets grandstand view of a battle scene; camera crew ready to shoot an advance; close to the enemy lines; cameras "take" a German machine gun nest; "Breezy" Eason shows Producer Lasky and Cameraman Edeson where he expects an artillery barrage to burst; Al Smalley, assistant; Eddie Fitzgerald, second; George Bourne, assistant and Arthur Edeson, first cameraman (second unit).









Left to right: James Craig and Jane Darwell as seen in the roles of mother and son; Jane Darwell and juvenile Lindy Wade; Craig plays the role of a modern Faust in this scene with Walter Huston; Edward Arnold as Daniel Webster, shown delivering his eloquent oration before a jury of long dead rogues.

Stills by Otto Benninger

"HERE IS A MAN"

"Here is a Man," RKO-Radio release, is the final title for "The Devil and Daniel Webster," which first made its appearance as a short story in the *Saturday Evening Post*.

The farm of Jabez Stone in New Hampshire near the fictitious village of Cross Corners, is the background for much of the story, which transpires during the years 1840 to 1847. Other settings include the village, the tavern, the public square, the surrounding countryside, a New England church, Webster's famous farm at "Marshfield," the pretentious new house that the wealthy Jabez builds and the Stone's old barn, where Jabez signs his pact with Mr. Scratch and where, the stalls converted into a jury box, Daniel Webster pits his own soul and his oratory against the devil to save the soul of Jabez Stone.



James Craig and Anne Shirley, as the young farmer and his wife.

The story is about a debt-ridden New England farmer, dogged by hard luck, who sells his soul to the devil for seven years of prosperity. Even though his sudden wealth changes him into a grasping, domineering character, his devoted wife remains loyal to him, despite his neglect and his attentions to a beautiful stranger sent by the devil to live in their home. Belatedly, the farmer, confronted with the consequences of his pact, relents his bargain and enlists the aid of Daniel Webster. The matchless orator in an eloquent speech before a jury of long dead, notorious American rogues, out-talks the devil himself and saves the farmer's soul at the risk of his own.



H. B. Warner, as the judge, in this makeshift courtroom scene in which the young farmer is on trial for his soul.

With "Here is a Man," William Dieterle, long recognized as one of the industry's foremost producers, strikes out on his own as Producer-Director and as head of his own company, William Dieterle Productions.



Reconciliation between Jabez Stone (James Craig) and his wife (Anne Shirley) is brought about by Daniel Webster (Edward Arnold).



The City of Suva, cross-roads of the South Seas.

SOUTH OF THE EQUATOR

Some of these days when you are wandering around down in the vicinity of the International date line and just a little south of the equator, I'd like to have you drop in on me for a few days' visit—or make it a week or a few months, just as you wish. but anyhow, I think you will like this little island paradise of mine.

The upper picture on pages 14 and 15 (Exhibit "A") will give you an idea of your first glimpse of it as you arrive after a 50-mile boat trip from Suva, a trip that will hold you spellbound every foot of the way. Casting off at high tide from the rock wall that holds back the sea from the Grand Pacific Hotel on three sides, you can practically step from your room into the boat. Slipping out to the inter-island boat channel that runs just inside the barrier reef you may see the surf breaking mountain high with a terrifying roar on the outside as you glide safely along on glassy smooth water. For a few miles you circle the mainland past heavy mangrove jungles and seemingly endless native fish traps, finally swinging up the Rewa River.

Here is one of the places where the Colonials as well as the natives catch their famed food delicacy, "white bait," the tiny spawn of the white fish, which in season may be seen in teeming billions along the banks of the Rewa. Their countless numbers literally turn the water white along the shore and they can be dipped up by bucketsful. The tiny fish are about one-quarter of an inch long and are cooked just as they come from the water, except for possibly a slight rinsing, and when mixed with the proper batter and baked or fried are just about the best sea food you ever tasted, excepting a half a dozen or more others I might mention later.

After a few miles you turn into the Wainabocassi (wine a bo cassi) a river, the likes of which they have attempted in many a jungle film, but which I have yet to see faithfully reproduced. Winding right angle turns, U turns, S turns and after miles of travel you find you are passing on the opposite side of the same village you passed hours before. In fact, you had better keep pretty close to the middle of the stream, for if you go off exploring through the tangled maze of mangrove roots and vines under which your boat will easily pass, you may find yourself hopelessly lost. Sliding past native villages—a studio art director's dream come true—you round a turn to see a mass of vines swinging from overhanging cocoanut trees actually loaded down with beans six feet long—wow! and on opening a pod you find the beans are *square*—now ain't that sumpin! Just think of the years they have been trying to develop square peas!

Just about the time the stream gets so narrow you fear you have lost it, you pop around a bend and into a canal dug ages ago by the cannibals under King Thackambau, the fiercest and most bloodthirsty cannibal of them all. Old King Thack used to send his men out to hide in the coral heads along the reef and at low tide when women from the neighboring villages came out to gather crabs and such, the men would jump out and bop the gals on the head, which meant a feast and lots of bicarbonate for the King.

The neighbors got sore eventually and laid for the King's men, disguising themselves as women. They made it so hot for the King and his gang that they couldn't get out to the reef any more, so he had to dig the canal, for military reasons, you might say, and as an outlet to new hunting grounds.

The canal opens out to sea over about two miles of mud flats and it is here among the scattered mangroves you may see that marvel of marvels: the tree climbing fish! In fact, on my last trip to Bali and the South Seas, I stopped off here on the way back and took a party of our scientists out to this spot and gathered a few of these fish for the edification of our fellow passengers on the *S.S. Monterey* who had scoffed at this and other fantastic tales I had told them. Needless to say, during the next few days our bath tub became a Mecca for nearly everyone aboard ship, including the passengers and crew.

After leaving Thackambau's canal you will head out to sea over twelve miles of coral lagoon which I would advise you to traverse during the daylight hours, otherwise you may find your boat impaled on a coral spearhead which will snap off when the tide goes, leaving you stranded in fifteen or twenty fathoms of nothing under you but nice clear water and razor sharp coral. Of course, if you are traversing this stretch in an out-rigger canoe with a native pilot, you are perfectly safe at any time.

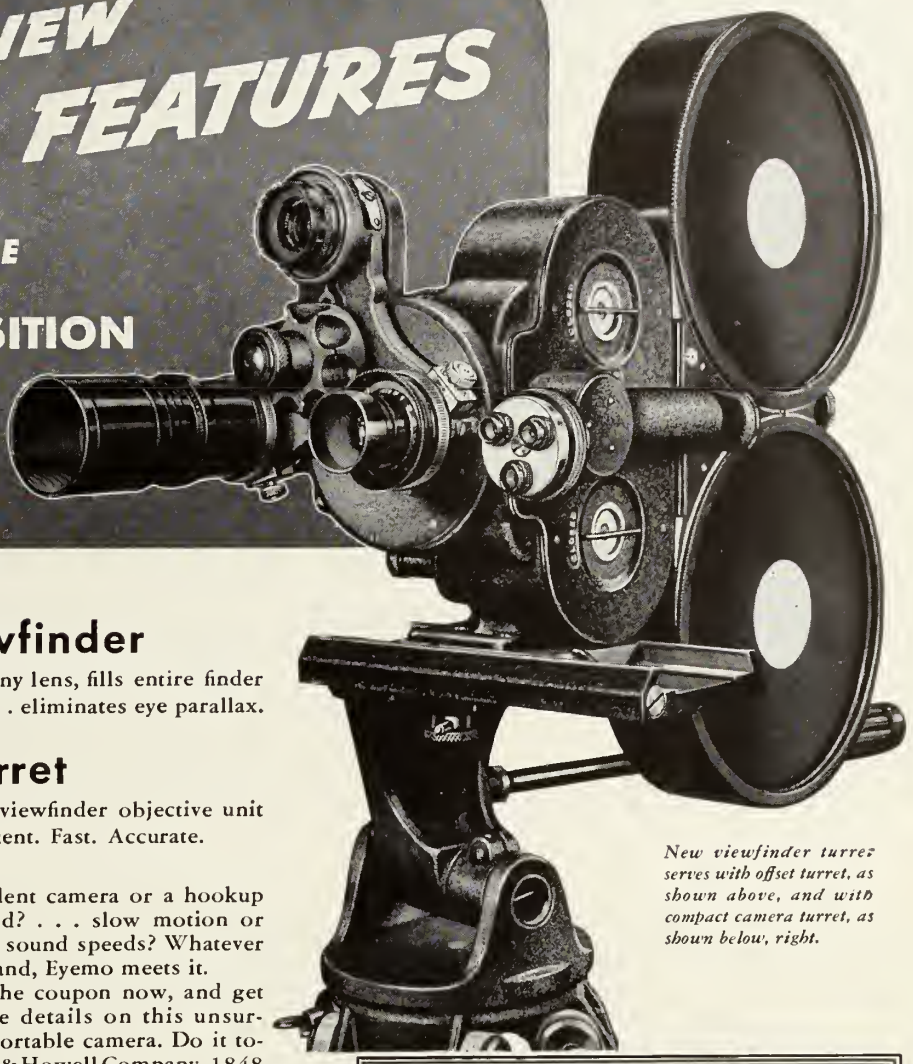
Anyhow, Exhibit A is the view of this little paradise as you approach it from the mainland, and you can either beach your boat on the quarter-mile white strand or drop anchor in deep water where you

(Continued on page 26)

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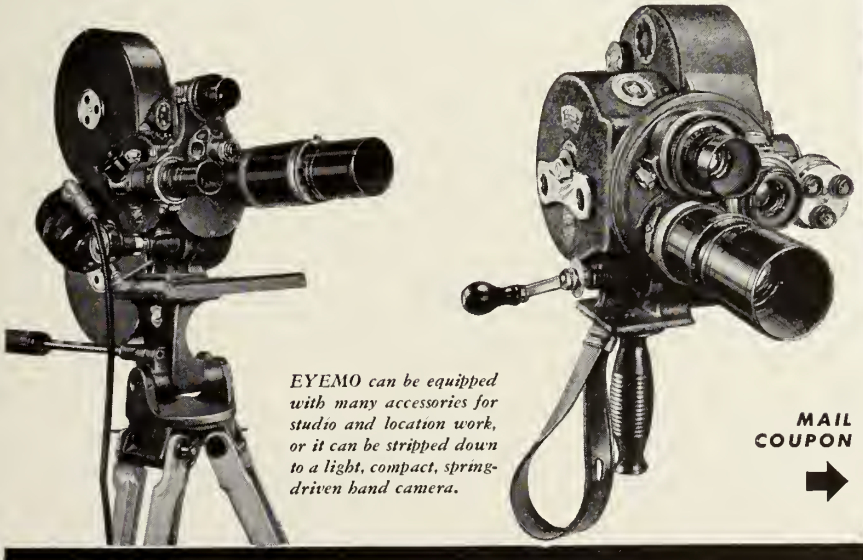
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In the lagoon approaching the island



Looking in on the seaward side
dressed up for a photograph.
around him, is the chief, who
Thackambau. (Exhibit B).



fty mile trip from Suva. (ExhibitA).



island, with the native boys all
left, facing the circle of boys
way, is the grandson of King

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The figures below will convey an idea of the magnitude of the B-19 bomber:

Designing and Building

9000 drawings required, which would cover an area of four acres; 500 engineers, technicians and mechanics employed on craft; 700,000 hours engineering time; 42,-500 hours research and testing time; 1,200,000 hours shop time; 4 years from start of design to first flight.

Construction Detail

212 ft. wing spread; 132 ft. fuselage length; 42 ft. 9 in. overall height to top of rudder; 61 ft. span of horizontal stabilizer; 8 ft. diameter of main landing gear wheels (4 ft. 6 in. diameter of nose wheel); 2 miles of control cable; 10 miles of electrical wiring (enclosed in conduits); 3,000,000 rivets; 4 Wright Duplex-Cyclone engines, each generating 2000 horsepower; 17 ft. Hamilton-Standard propellers; 140,-000 pounds—normal gross weight; 164,-000 pounds—alternate gross weight.

Performance

Speed—in excess of 200 m.p.h.; landing speed — 69 m.p.h.; range — 7750 miles.; fuel capacity—11,000 gallons; flight crew —10 men (sleeping accommodations for 8); bomb capacity—18 tons; total load capacity—28 tons.

Spanish Sound Tracks for Latin America

The first constructive step toward satisfaction of Latin American demands on Hollywood has been taken by Warner Bros. with the announcement of a new policy on films shipped to other nations of this hemisphere.

The policy to be followed on features for release in Central and South America involves recording of an extra set of sound track in Spanish for music numbers used in pictures. The players will learn phonetic Spanish in order to render songs in comprehensible fashion south of the border.

Uncle Sam's B-19 Bomber









NEWSREELERS ON THE JOB: Left to right: Officer (unknown); Carl Jones, sound, News of the Day; Arthur de Titta, Pacific Coast Supervisor, Fox Movietone News; Dexter Alley, assistant cameraman, Universal News; S. E. Greenwald, cameraman, News of the Day; Jack McHenry, cameraman, Universal News, San Francisco; Charles Lehman, sound, Fox Movietone News; C. J. Hubbell, Pacific Coast Supervisor, News of the Day.

"SERGEANT YORK"

"Sergeant York" was filmed on 123 studio sets, and on eight outdoor locations one of which was an 80-acre battlefield. Some background shots also were made in Tennessee.

Largest of the studio sets duplicated a section of the Valley of the Three Forks on the Wolf. This set included a mountain built on a revolving base, (*see May issue of International Photographer*), a stream 200 feet long, a stationery peak and a large expanse of wood and farm land. It was dressed with 121 real trees, 75 of them cedars, the remainder pines and oaks.

Weight of the moving mountain, so built in order to provide a variety of camera angles with a minimum of set-shifting time, was 60 tons. The circular base of the mountain was 35 feet in diameter. The peak itself rose to a height of 40 feet above stage floor level.

At various times, three different cabin homes, including farm out-buildings, were accommodated on this stage setting. Unit Art Director John Hughes and Cameraman Sol Polito so shifted the background as to give each its individual set.

A turkey shoot, staged according to Cumberland mountain rules, with contestants firing muzzle-loading long rifles, and a fox hunt also were filmed on this setting after the background had been revamped. A tame raccoon was led over the woodland trails to provide live scent for the hounds which participated in the hunt.

With the exception of Cooper, the picture has two casts—one the Tennessee mountain characters, the other the army and public life characters.

A practical target range, identical with those used in army cantonments, was built at Warner Bros.' ranch for rifle practice scenes. Thirty-one targets were constructed.

The 80-acre battlefield, largest ever prepared for a motion picture war, was located in a ridge-flanked valley in the Simi hills, some 40 miles from Hollywood. A wrecking crew of 300 men worked three weeks transforming a barley field into a war-blasted waste. The studio paid the farmer the price of a bumper crop for his barley, added a flat location rental and the proviso that the field would be restored to its original condition.

Five tons of dynamite were used to blast out shell craters. Two miles of sandbagged zig-zagging trench lines were cut through the field. Four hundred denuded tree trunks and blasted tree stumps were planted in the scarred ground. Five thousand two hundred gallons of paint were sprayed on ground and tree stumps to blacken them to war-scorched hue. Three big tractors ripped and tore the earth between shell craters.

Each day, for three full weeks and most of a fourth, from 200 to 500 extras were used as soldiers in the battle scenes. Three thousand four hundred powder mines, and 380 aerial bombs were exploded. As many as 139 mines were exploded for single camera shots.

Three thousand two hundred pounds of black powder went into the ground mines, cascaded a total of four tons of dry color—bone black and burnt umber—as high as 80 feet into the air. Never before in the history of movie warfare was there such a series of spectacular barrages, according to Carl Voss, the veteran ex-army regular and professional drill sergeant who trained the film troops.

An average crew of seventeen powder men worked on the war scenes. On the day of the biggest barrage there were 36 men in the powder crew. Six miles of wire connected the powder charges with electric control firing boards.

Four tons of smoke composition was used to create the murky battle haze. Thirty-seven thousands rounds of rifle ammunition and 32,000 rounds of machine gun ammunition (blank cartridges) were fired, upwards of 5,000 machine gun effects were exploded.

Six thousands seven hundred and thirty-two hot lunches were served to the "troops" on the battlefield.

Sergeant York's exploit of killing 25 German machine gunners and capturing 132 prisoners almost single-handedly was filmed in detail as the climaxing event of the battle action. During filming of these scenes some 2500 machine gun effects were exploded around Cooper.

Of the many medals awarded York for heroism, three were conferred upon Cooper in decoration scenes. They were the French Medaille Militaire, the American Distinguished Service Cross and the United States Congressional Medal of Honor, presented by actors representing Marshall Foch, Major General George B. Duncan and General Pershing, respectively.

The Medal of Honor, loaned to the studio for the picture by the United States government, was sent out from Washington, D. C., and returned immediately after the decoration scenes were shot. Some day a future hero will wear it as his own.

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When in New York City, Rochester or Los Angeles, you are cordially invited to visit the Graflex Display Rooms where you can see the complete Graflex line and discuss your equipment problems with factory-trained technicians.

Here are two reference books that any photographer will find invaluable: Graphic Graflex Photography by Willard D. Morgan, Henry M. Lester and 20 other experts; and Photographic Enlarging by Franklin I. Jordan, F.R.P.S.—$4.00 and $2.50 respectively, at your Dealer's.

FREE CATALOG! For further information concerning Graflex and Speed Graphic American-made, Prize-Winning Products, get the Graflex catalog. It's free at your Dealer's or it may be obtained from Folmer Graflex Corporation, Department IP-4, Rochester, New York, U. S. A.

AMERICAN MADE **GRAFLEX** *Prize-Winning* **CAMERAS**

16mm. department

"It's Not WHAT, But HOW . . ."

Shakespeare struck the keynote for the amateur movie maker—and camera fans in general—when he once said that all the world's a stage, and that its men and women are merely players. And anyone who owns a camera and doesn't realize the full scope and import of this statement is blind to a wealth of material and merely groping in the dark when he looks around in vain in a semi-bored condition for "something worthwhile to shoot."

Generally speaking, many people reach this stage of looking for something they never seem to be able to find after they have satisfied their justifiable but nevertheless childish desire to just run film through the camera, if it is a movie camera, or to click the shutter, if it is a still camera, just for the sake of running the film or clicking the shutter. To the neophyte there is a singular thrill in taking pictures just for the fun of operating the camera and knowing that a picture is being recorded on the film. What he shoots, or how he shoots it matters little while he is still in this state, and he will continue on with his spree, shooting high, wide and handsome, until the sobering influence of his misdeeds begins staring him in the face on the screen! For a while even these have only the effect of whetting his appetite for promiscuous shooting, but it isn't very long before the monotony of the results obtained takes hold; the thrill of "just shooting" has worn off, and he begins to take stock of himself and his camera.

For many of the unimaginative, their careers as amateur cinematographers or photographers, end here; others enter that adolescent stage of sophistication and arrive at the conclusion that they are above shooting such mundane things as *everyday life*. In this photographically blase manner they are constantly looking for something they never seem to be able to find. Occasionally some bit of subject matter will present itself to them as being "unusual," and if they have managed to acquire some degree of technical proficiency by this time and get an interesting picture they become tremendously satisfied with themselves and progress to the stage of "intellectuals," which is, in fact, an advanced state of adolescence characterized by a smugness and narrow-mindedness which prevents any real progress because it tends to blind the individual to any viewpoint other than his own. And in this manner they continue groping in the dark, still looking for "something worthwhile to shoot."

Those who have not been bogged down by "intellect" and have grown normally through the adolescent stage eventually become aware of the fact that there is a *wealth* of material with which to work *all about them*. Material that can be of intense interest, if they will but make it that way. It is the material that the other fellow would pass up because it isn't "unusual," "interesting," or "photogenic"!

The point we are trying to stress is that it doesn't matter so much *what* the story of a motion picture happens to be as *how* it's told. Since in the art of the motion picture it is the camera that tells the story, it resolves itself down to *how* you use the camera—a fact neither new nor startling, but a premise in direct opposition to that held by so many who are looking for "something worthwhile to shoot."

To begin with, the amateur making a motion picture must recognize one basic fact: he must think of the entire picture as a whole, instead of individual scenes by themselves. A "scene" can be said to bear the same relationship to the entire picture that a sentence does to a written story. While either a scene or a sentence in itself may be something of great beauty or interest, unless it says something which ties in with the other scenes or sentences toward the development of the story as a whole, it is meaningless. It stands to reason, now, that *some* scenes (or sentences) must serve as a "build-up" for those which will convey the main point, or the climax, of the story. All too many films are guilty of an impatience to reach a climax (if indeed they can be said to have such singleness of purpose!) that they really are dull and uninteresting. It is these scenes that develop the theme that are important and must be handled as carefully as the climax itself.

The greatest interest a picture can have is *human interest*, and the same subject matter can be treated so that it will or will not have human interest. We may have a sequence of Johnny out playing baseball with the rest of the kids after school. He had been specifically told that he was to come right home, that there were things to be done for mother. But Johnny played baseball and mother had to do her own chores. She was overhurdened, cross and irritable. Does this sound prosaic? It is—in fact it's something that happens every day to many mothers and kids! Hardly a subject for an interesting picture to many because they would first photograph mother instructing Johnny to come right home after school because there was work to be done; then Johnny leaving school, becoming interested in the baseball game, and finally an irate mother reprimanding Johnny. But—

Picture the same sequence in this manner:

After establishing a long shot of the baseball team in action, we cut to a close up of little Johnny with a catcher's mask much too large for his small head, with an intent, eager, absorbed look on his dirty face. We see him trying to keep the mask from falling completely off in between the times that the ball is coming his way. The "man" at bat (in another close-up) is swinging a bat almost his own size. Cutting to a medium shot, we see him make a hit and go running toward first base, with his dog running after him. He stumbles over the dog, is tagged out, and the game is over. (Using a coaster wagon for a dolly, we get a "trucking shot" of the gang on their way home.) We cut to a close-up of Johnny in motion, animatedly discussing the game with the rest of the fellows. An insert of the dog tagging behind them will add interest. Once in the house (the "gang" has followed Johnny inside) he gets his scolding for not coming directly home. We cut to a close-up of mother while she is scolding Johnny, and we see her stop short; then we cut to a close-up, or short scenes of close-ups of the gang with all their paraphernalia, presenting a sight so ludicrous that even mother, tired though she is, see the humorous side of it. We cut to a medium shot of mother as she breaks into a tired laugh and gives Johnny a kiss, which leaves her with a big splotch of dirt where Johnny touched her. The scene fades out as the kids run outside again.

The people you live and work with, the places you pass by daily with no more than a casual glance, can be made very interesting. But it is up to you to make them so.

FILTER SIZES CHANGED

By George H. Scheibe

The past year has seen quite a change in filter sizes, due to changes in filter holders and the distance from the lens. The filters must clear the magazines and in this case the filters must be several inches from the lens which makes the filters wider and longer. A number of studios have made this change in filter sizes.

During the past few months I have filled orders for filters in the following sizes: 5½ by 12 inches; 5½ by 14 inches; 2-11/16 by 10 or 12 inches and 3 by 10 or 12 inches. I have made filters 22 inches long in varying densities. Some start with clear glass and end up with a heavy density; others start with slight diffusion and end up heavy or mild. These are made in Diffusion or Fog.

Another filter which I turned out recently was 3 by 18 inches; heavy fog in the center, fading out to clear at the edges.

Some filters are made to fit a filter holder which rotates and has three openings for filters, using three filters at a time and each at a different angle. In some cases I have made a filter to fit a filter holder which swings from horizontal to vertical and this holder carries the larger sizes, as mentioned in the beginning.

All filters are made in varying lengths, with seemingly no limit in size required. Also I have made graduated filters in one, two and three graduations and in different colors. There are many graduated filters that can be made to suit your work.

CARBON ARC LIGHTING

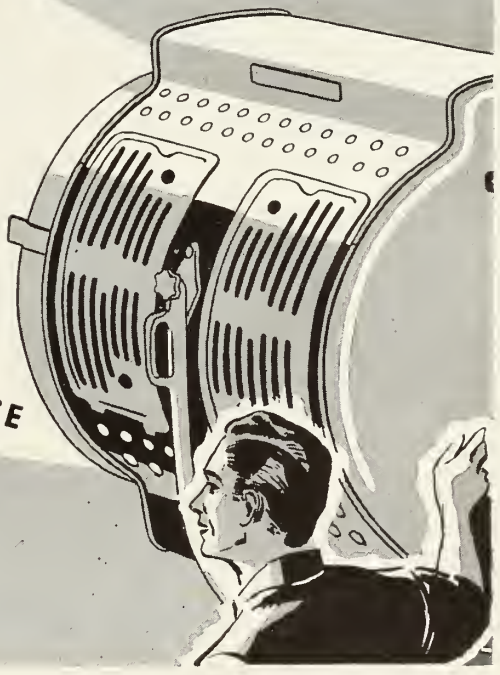
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TRADEWINDS



The Kodak Medalist, 2¼ by 3¼ camera combining in one compact, integrated assembly, the convenience of roll film, with easy adaptability to the use of cut sheet film, film packs and plates, and the accuracy and operating refinements of a precision miniature.

Eastman Announces New 2¼ by 3¼ Camera

Eastman announces the new Kodak Medalist, 2¼ by 3¼ camera combining in one compact, integrated assembly, the convenience of roll film, with easy adaptability to the use of cut sheet film, film packs and plates, and the operating refinements of a precision miniature.

The Medalist is designed for exceptional flexibility of performance and fast, easy operation. It is intended to appeal to news, commercial, and scientific photographers who must produce consistently good results —advanced amateurs and pictorialists who compete on the basis of quality and camera enthusiasts in general, who want fine equipment.

This precision, all-American-built camera, produces 2¼ by 3¼ images on 620 roll film; and with accessory back on 520 film packs and 6.5 by 9 cm. films and plates.

Its 100 mm. f/3.5 Kodak Ektar Lens more than meets the present-day needs for a fast, highly corrected lens. It consists of five elements, and like all Ektar lenses, it is focused as a unit. All interior glass-air surfaces are treated which, together with its special mount and shutter surfaces, reduces inter-surface reflections to a minimum and produces negatives with more brilliant contrast, and full color Kodachrome transparencies with greater color purity. Its technical characteristics include an angle of coverage of 51°—flat field — greatly improved color correction longitudinally and exact register laterally —no measurable coma or linear distortion —exceptional light transmission, and superior definition.

The shutter is a special model of Kodak Supermatic No. 2. It is of the gear-train retard, presetting type, with blades of special thin, low-inertia spring steel; base plate and all gears are of nickel silver or stainless steel. It has eight apertures from f/32 to f/3.5, and nine speeds ranging from 1 to 1/400 second, plus bulb. It also has built-in, delayed-exposure mechanism, cable release socket for remote control, and Photoflash synchronization. Aperture and shutter scales are easily visible from the operating position with shutter speed scale divided with separate indicators for high and low speeds.

The plunger-type shutter release, located for convenient operation by the forefinger of the right hand, trips the shutter with a smooth positive action.

Time exposures are easily made by swinging to the user's right the small lever connected to a collar encircling the release plunger. With the lever in this position, and the shutter set on "bulb," the plunger release remains down when depressed, and the shutter is held open until the lever is returned to its normal position. After each exposure a red warning signal appears in a small circular window located just back of the Depth of Field Scale, indicating that the shutter is not cocked. On winding the film to the next exposure or by cocking the shutter manually with the lever projecting from the base of the viewfinder housing, the red signal disappears.

The Kodak Medalist's radically new lens support meets all exacting requirements for critical focusing and is an important advance in precision camera design.

Built into the top of Kodak Medalist is another new feature. Coupled to operate with the focusing tube after it is extended to picture-taking position, a distance scale turns to show the focus at which the lens is set. The depth of field at any distance can then be read for any lens aperture selected.

Kodak Medalist has a split-field, military type range finder system coupled to operate automatically with the lens.

The view finder is designed to give parallax correction automatically while the range finder eyepiece shows the central portion of the subject field covered by the view finder.

When Kodak Medalist is loaded with Kodak Infra-Red Film, the range finder is used to measure accurately the subject distance. Then, however, because infra-red light focuses at a different plane from other light rays, correction is made by manually setting the distance found by the range finder to coincide with the red mark appearing on the dial.

The back of Kodak Medalist is designed with an ingenious combined hinge and latch at each end. Hence the back can be opened either to the right or to the left or it can be removed entirely.

Loading is made extremely easy by another new feature. There are no spool centers in the supply spool chamber. The roll of film is merely pressed into the spool chamber, the two flanges of the spool riding against small separate rollers at each end of a film guide.

An automatic measuring device working in conjunction with the film winding knob permits only sufficient film to be advanced for each exposure. Turning the winding knob to advance the film sets the shutter automatically.

Double exposures cannot be made unintentionally, for once the shutter has been released it will not operate again until the film has been wound into position for the next exposure, simultaneously setting the shutter.

The Kodak Medalist, without accessories is priced at $165.00.

(Continued on page 27)

I win a bet from Billie— the Script Girl!



"Cut," says the Director, and then he turns to me. "How do you like it?"

"I'll buy it," I say.

"Okay, print it."

Then Billie looks up and says, "I've been a script girl for five years and I've never seen anybody shoot into a weak light like that and come out with anything worth printing."

"Want to bet?" I ask her.

"One steak dinner," she says.

"It's a bet."

Next afternoon we see the rushes. Billie gasps. The Director gasps. Even I gasp . . . and everyone wants to know how we ever did it.

"I shot it on Agfa Supreme," I tell them.

And I win the bet with Billie!

• • • •

Far be it from us to tell *you* how and when to use Agfa Supreme. *Or* Agfa Ultra-Speed. *Or* Agfa Infra-Red. This is just a reminder that these Agfa Films have many great possibilities—with the help of your own expert touch! **Agfa Ansco Products. Made in Binghamton, New York, U. S. A.**

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Introducing Buddy Longworth of Warner Bros'. crack staff of still-men. Long reputed to be one of the daffiest of Hollywood bulb-squeezers, Buddy is crazy like a fox. His mirth-provoking antics are all in the way of breaking down his subjects' resistance and getting them to relax. His long career of unusual angle and action shots stand as a proof of his fine abilities. Here he is seen in a series of pictures taken by his comrade-in-arts, Scotty Welbourne. Buddy is set to lens the Navy Blues Sextet from Warner's production "Navy Blues." Included in the cast are Ann Sheridan, Jack Oakie, Martha Raye, Jack Haley, Jackie C. Gleason and Herbert Anderson.

LUNATIC LENSMAN



In the Bag—Buddy's got the shot he wants, yells his customary "Thirty Dollars," which signifies the subject's on the negative. Off he starts, while a stream of black smoke emanates from his antiquated view-finder camera.



Removing the lens-board in search of the trouble, Longworth succeeds only in becoming more perplexed. While he pretends not to know what might have caused the combustion, it's quite possible that it is one of his daffy experiments, this time probably an attempt to get more light on his negative.

THE CAUSE



The Cause of the Smoke,
The Navy Blues Sextet:
Peggy Diggins,
Margarette Chapman,
Georgia Carrol,
Kay Aldrich,
Loraine Gettman,
Claire James.

AND THE EFFECT



Throw in the View Cloth—Longworth is now convinced that he's over-exposed his negative. That's one of the pleasant things about working with Buddy, take it from a publicity man. He's quick to admit his mistakes—especially when confronted with overwhelming proof.



Ah There! He's Done It Again—No wonder Buddy couldn't keep his camera under control. Next time he'll know enough to shoot this sort of thing under water. With a line-up like Buddy had to shoot it's hard to blame a poor, mechanical camera. We feel a bit hot under the collar ourselves.

PATENTS

By ROBERT W. FULWIDER, *Patent Attorney, Los Angeles*

No. 2,243,892—Camera Supporting Pedestal. *Alda V. Bedford* and *Knut J. Magnusson*, assignors to Radio Corporation of America. Original application November 5, 1936. Divided and this applicaton September 30, 1937. 3 claims.

A camera dolly mounted on wheels which are connected together with a sprocket chain, and which has a foot operated castor adapted to lift one of the wheels off the floor.

No. 2,244,170 — Developing Machine. *Casimir A. Miketta* and *Anthony G. Wise*, assignors to Loew's Inc. Application June 15, 1938. 3 claims.

A developing machine in which the film is frictionally driven by rollers of different sizes but intermittently rotating at the same rate so as to impart impulses to the film.

No. 2,244,313 — Cinematographic Film Registration. *Wadsworth E. Pohl*, assignor to Technicolor Motion Picture Corp., Los Angeles. Application April 17, 1940. 4 claims.

The method of registering films in which the sprocket teeth are smaller than the sprocket holes, by feeding several films onto the teeth and seating corresponding edges of the holes against the sides of the teeth.

No. 2,244,589 — Photographic Color Process. *Louis Yanket*, Long Island City, N. Y. Application Oct. 31, 1938. 2 claims.

A color process in which an emulsion containing silver chloride and silver bromide is developed and colored and resensitized in a bath containing soluble chloride and soluble bromide in ratio to give the resensitized portions of the emulsion the same contrast characteristics as it originally had.

No. 2,244,905 — Method of Producing Multicolored Relief Pictures. *Jack Crawford*, New York, N. Y. Application August 24, 1938. 5 claims.

The method of producing a multi-colored picture within a single colloid relief image which comprises treating said image throughout with a dark eye adapted to subtract all colors from white light and which is removable from said relief, applying to local areas of said relief, respectively, different dyes adapted to give different selective subtractions of color from white light and adapted gradually to replace the first-named dye in said image.

No. 2,244,965—High Speed Film Printer. *Frederick William Roberts*, assignor to Warner Bros. Pictures, Inc. Application May 1, 1939. 23 claims.

A printer which has a pair of printing lamps and means for alternately directing the light from the lamps to the film gate, with film operated means for varying the intensity of illumination of one of the lamps when the light beam of the other of the lamps is directed onto the film gate.

No. 2,245,218—Water-Soluble Photographic Coating. *Thomas F. Murray, Jr.*, and *William O. Kenyon*, assignors to Eastman Kodak Company. Application July 27, 1938. 8 claims.

A method of protecting a film having a gelatine layer which can be softened by hot water and not by cold water, by coating the film with a transparent layer of a polyvinal acetal resin soluble in water at a temperature of about 0° C.

No. 2,245,896 — Picture Projection Screen and Method of Making the Same. *Bernard M. Bodde*, Hollywood, Calif. Application February 12, 1938. 5 claims.

A method of making a projection screen having a number of apertures for transmission of sound waves, by spraying a solution of a transparent plastic on a matrix having holes therein, and stripping the aperture sheet from the matrix.

No. 2,246,013—Color Sound Film. *Karl Schinzel*, Rochester, N. Y., and *Ludwig Schinzel*, Troppau, Silesia; said Karl Schinzel assignor to Eastman Kodak Company. Application June 18, 1938. In Austria June 25, 1937. 2 claims.

A method of printing a sound track on a multilayer color film having an upper layer of soft gelatine containing silver chloride and a lower layer of harder gelatine containing silver bromide, a picture being printed, developed, and fixed in the soft emulsion, and a sound track then being printed in the harder emulsion.

No. 2,246,093—Projection of Pictures in Colors. *Otto C. Gilmore*, assignor to Cosmocolor Corporation. Application October 27, 1937. 20 claims.

A device for projecting two pictures in superposition from a film having the pictures in side-by-side relation, the device having two completely separate objective systems, erecting prisms for turning both images into upright positions, and baffles to prevent the passage of stray light.

No. 2,246,997 — Color Photography. *Hans Kudar*, Germany. Application October 27, 1939. In Germany July 18, 1935. 7 claims.

A method of producing color pictures by exposing through a two color filter, a lenticular film having two superposed emulsions sensitized for complementary colors and developing and converting the images into colored positives.

So. of Equator

(Continued from page 12)

see our two boats in the foreground. Don't expect to see the beach alive with naked natives as the picture shows, for these were just some of the two hundred we imported from the mainland to act in our film. And you will not see the miracle of a village of thirty huts arise out of the virgin jungle as we saw it the day we brought our boys over, for within two hours after we arrived, the boys had set up and completed this village, using only their bare hands and the materials provided by nature on the island, the only tools being a small ax or two.

Exhibit "B" shows the village from the beach.

When it comes to food, here is a spot where you can practically get your living out of the sea and jungle. Fruits, nuts and even potatoes grow wild here, and the waters teem with fish. I have seen a dozen of our boys go out around where our two boats are anchored and catch a quarter of a ton of fish, none weighing over twelve pounds, in less than three hours' time.

Two miles out to seaward lies the barrier reef, and at low tide you can safely walk out and back, gathering along the way a gunny sack full of crabs, lobsters, parrot fish and shell fish of every kind. One day some of our boys came in carrying a giant sea turtle that easily weighed over a thousand pounds. They had caught him on the reef at low tide, where he had become stranded.

Out around the barrier reef you will see the really big fish, from whales down to thousand pound sharks, manta or devil fish, octopus, five foot sting rays and swordfish; and speaking of swordfish—that country down there with its fifty thousand islands, islets and reefs, is a natural for swordfish, and somebody, some day, with proper tackle, is going to snag the record swordy out of those parts. To say nothing of color pictures. And that little wisp of smoke you see curling up out of the cocoanut trees on our paradise isle means that Willie Lum, the Chinese cook, is working on another dinner of baked king fish, lobster, taro and yams with some nice cool cocoanut milk and chilled papaya for a chaser.

Aetivity at Warner Bros.

Coincident with the scheduling of thirteen features to be before the cameras on July 1, in itself a record, J. L. Warner and Hal B. Wallis, production chiefs, have assigned 54 writers to the shaping of 38 screen plays, a new record at the studio for simultaneous scripting activity.

TRADEWINDS

(Continued from page 22)

Ed Seymour Publishes "Western Family"

Across our desk this morning passed the fourth advance copy of "Western Family," a magazine being given away by eight hundred independent grocers in Southern California. It is well worth an extra walk or drive to secure a copy. Within its twenty-two pages are tips on home marketing, gardening, some excellent recipes and other hints for the homemaker, as well as one or two good short stories.

Of particular interest to us was the name of the publisher on the masthead—Edgar Seymour, formerly advertising manager of Bardwell & McAlister.

"Western Family" is a grand little magazine, Ed, and we here at International Photographer extend greetings to you and your staff.

Flat Light Screen Moves to New Building

Plas-Tex Corporation announces the opening of its new plant at 653 North Robertson Boulevard, Los Angeles. The new telephone number is BRadshaw 2-2757.

Plas-Tex is one of the largest and most modern plants specializing in the custom molding of plastics. It has its own completely equipped machine and die shop.

The Flat Light Screen division of Plas-Tex Corporation manufactures all-plastic screens for process photography for motion picture studios, and for commercial photographers. This division is also engaged in the manufacture of front and rear projection screens for motion picture theatres and the amateur photographer.

"Soundies" Form Distributing Company

Recognizing the need for good pictures and varied programs for motion picture coin machines, three far-sighted producers have consolidated their efforts and formed Associated Producers Distributing, Inc. This company is distributing the productions of Techni-Process, Song-O-Graph and Featurettes. The officers are Harold N. Raymond, President; Mario Castegnaro, First Vice President; Peter Ratoff, Second Vice President; Louis Herscher, Third Vice President; Gladys Leavitt, Secretary and Mrs. Mario Castegnaro, Treasurer.

Realizing that the programs must have varied entertainment and knowing that each producer has his own style, which is easily recognized, it was decided to combine the productions of the three producers thereby assuring the operators of a well-balanced, entertaining program. This is particularly important as long as the machines do not have selectivity.

In forming this combine of producers, the distributors and operators are assured of more product.

Three programs have already been released. Featurettes, of which Mr. Raymond is President, is preparing to shoot ten numbers at the end of the month. Techniprocess, of which Mr. Castegnaro is President will follow these productions with ten more.

To date the Associated Producers Distributing, Inc., has been in contact with and sold prints to the box manufacturers over the country. Mr. Castenaro and Mr. Ratoff are now on an extended trip visiting distributors and operators in different states. It is their intention to find out what the public wants and to make pictures that will be entertaining to the customers and profitable to the operators.

New G. E. Photoflash Lamp

General Electric's lamp department at Nela Park has just announced a new synchro-press lamp called G-E Mazda photoflash lamp No. 11 to replace its present No. 11A lamp. The new No. 11 flash bulb, employing shredded foil, is designed to have approximately 50 per cent greater light output than that of the foil-filled No. 11A lamp. Lumen seconds of the present lamp are 18,000 to 22,000, of the new No. 11 are 28,000 to 32,000. Peak lumens of the No. 11 are two million, of the No. 11A lamp are 2.4 million.

Changes in the ratings of other units in the G-E Mazda Photolamp line are as follows:

Old Values		
Type	*Peak Lum.*	*Lumen Seconds*
SM	500,000	2,500- 3,000
No. 5	1,200,000	16,000- 18,000
No. 50	5,500,000	100,000-120,000

New Values	
Peak Lumens	*Lumen Seconds*
700,000	4,500- 5,000
1,200,000	17,000- 19,000
6,000,000	110,000-125,000

The Nela Park photolamp experts point out that these changes should lead to even clearer pictures and easier synchronization, in the cases of lamps affected, than heretofore.

S.M.P.E. Honors Albert S. Howell

In electing Albert S. Howell to Honorary Membership, the Society of Motion Picture Engineers has given signal honor to one of the outstanding pioneers of the industry. Mr. Howell is one of the founders of the Bell & Howell Company, a name known to the professional and amateur industries alike, since their very inceptions, and this recognition by the S. M. P. E. crowns a long career of invention and research.

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They Say---

By RELLA



Captain Guy Newhard, United States Army Air Corps, bidding good-bye to Vern Walker at RKO. Guy will be stationed at Wright Field, Dayton, Ohio.

● Eric Mayell, Fox Movietone newsreel cameraman, who spent over three years in China photographing an endless war, visited Hollywood last week. Speaking through International Photographer for his first informal interview, Mayell says that the people of a nation banded together, determined to protect the flag and the country for which it stands, can never lose. With this slogan Mayell seems convinced that democracies will prevail and right fly when might has been destroyed.

● Off to Canada and parts thereof to film "Captain of the Clouds." First Cameramen: Sol Polito, Will Cline, Elmer Dyer, Charles Marshall, Winton Hoch. Second Cameraman: Al Greene. Technicians: A. J. Callahan, Paul Uhl and George Dye. Assistants: Eddie Wade, Rod Tolmie, Kay Norton, and Alfred Baalas. Loader: Gene Polito. Still Cameraman: Mac Julian.

● On "Reap The Wild Wind," extravagant Paramount production, talk seems to be going around that men working on the boom shots ought to get mileage, considering all the travelling they do.

● Members of 659 extend their deepest sympathy to the family of Al Roberts.

● Members of 659 likewise extend their deepest sympathy to Mildred Rinehart in the loss of her dear mother.

● Ray Rennahan is a native son, birthplace being San Bernardino.

● Stanley Cortez, cameraman on Universal's "Badlands of Dakota" has added a device to the production company's camera car which, in the first day of its use, saved an estimated $500 in time.

The device consists of a microphone and loudspeaker (and earphones) through which the cameraman can give instructions as to speed to the driver of the camera car. This enables the cameras to hold the subjects within their range while the car is proceeding at rapid speed, hitherto very difficult to achieve in scenes where the camera car is ahead of the players, as the driver cannot see the action.

Cortez's device enables him to give the driver precise instructions, in a whisper when sound is being recorded, or loud enough to be heard over the noise when a "chase" scene is being filmed. Heretofore what orders were given either interfered with the dialogue, or were unheard because of the din of the scene.

● Bob Connel in town, using Bud Hooper and Van Runkel on 16 mm work for Denver & Rio Grande Railroad.

● Archie Stout and Eddie Garvin on location in Baton Rouge, Louisiana, for Samuel Goldwyn productions.

● Guy Newhard now Captain in the United States Army Air Corps stationed at Wright Field, Dayton, Ohio.

● John Mescall enjoying a splendid success at Paramount Studios. His picture, "The Night of January 16th," should be watched for some excellent photography.

● Sol Halprin, first cameraman at Fox Studio, can really boast of permanency on a job. With Fox for over 22 years and going stronger than ever.

● Members of Local 659 extend their deepest sympathy to the family and friends of Otto Kanturek, who was shot down in England recently during the filming of an actual dog fight, scenes of which were to be used in the Fox production, "A Yank in the R. A. F."

● Everyone is glad to see Eddie Adams back on the job.

● Here's hoping that Milton Brown likewise gets back shortly.

● Frank Lowery, of San Francisco, is down here and happy to be working with the boys of Los Angeles.

● Charles Van Enger shooting the W. C. Fields' picture at Universal.

● Harry Hallenberger, black and white cameraman on "Louisiana Purchase," Paramount Production.

● Willard Vanderveer driving a new Pathe News camera car.

Motion Picture Equipment Goes to Russia

Among other large shipments of motion picture equipment to Russia, George Scheibe reports filling an order for several hundred Scheibe Filters.

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Vol. XIII **September, 1941** **No. 8**

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111 I.P.E.U. BROWN-CALDWELL

On the Cover

Tom Harmon, who earned millions of fans while winning All-American honors, goes skyward as he "boots a long one" during filming of Columbia's "Harmon of Michigan."

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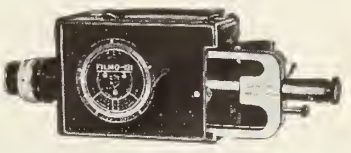
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"Daughter of the Sun" By William Mortensen

GEORGE HURRELL

An interview with one of the motion picture's foremost portrait photographers

Perhaps the unusual effects in Hurrell's photographs may be attributed to the fact that he started as an artist, having studied painting and drawing at Chicago Art Institute and Academy of Fine Arts.

In 1925 he came to California with Edgar Alwyn Payne, the landscape painter, and established a studio at Laguna Beach, where his contact with the many artists in that colony proved to be a fine influence.

He became interested in photography, and as he delved further into it he began to find it more exciting than painting. He started devoting more and more time to it by putting in some actual groundwork at different studios. At last, satisfied that he had the ability to go ahead as a photographer, Hurrell opened a small studio in Los Angeles and soon after many a motion picture star followed the lead of Ramon Navarro, who had been his first subject.

MGM Studios became interested in his work and persuaded him to close his studio and move over to their gallery. He remained there three years.

About this time Hurrell decided that he would again like an establishment of his own, so he opened a studio in Hollywood, where he has since been photographing for the studios on special assignment. His efficiency in emphasizing in his photographs the dramatic ability of his subjects is well known.

The other day when Hurrell dropped into the office we stopped him for a few minute's interview, which is included in the text that follows. Hurrell is a practical sort of fellow and does not lay claim to "having a rabbit up his sleeve." He can't give any rules and regulations about obtaining good portraits, because he feels rules are a handicap.

Hurrell is almost ready to open his new studios at 333 No. Rodeo Drive, Beverly Hills, California. He invites any of the members of 659 to call and says they will find a cordial welcome.

In this business too little consideration is given to the making of prints and printing is treated too lightly. It should be given the most serious consideration. Take the two photographs being used in this issue (see pages 4 and 5), if they had heen sent to any lahoratory they would not have had the roundness we see in these prints. The men in these laboratories understand their business and are skilled craftsmen, but they don't have the time to use their imagination and visualize just what the photographer tries to convey. It is too bad that the photographer cannot carry straight through and make the prints, but from a production point of view this would he impossible. If it could be done the photographer would be ahle to accomplish what he started out to do.

Tone quality is produced by balance in lighting and exposing the negative to get that halance. A photograph technically may be over or under-exposed. That of Rita Hayworth, for instance, is under-exposed, or would be considered so if coming out of a lab. Then it is largely in the printing that we get the half-tones. To get these it is necessary to think of them and work for them.

In the studio lab the idea is to send out prints as light as possible for reproduction in newspapers, with little or no thought being given to their production in magazines. Therefore, the quality is not right for the magazines. Unfortunately prints cannot be made for the particular place where they are to be used. If this could be done much hetter results would be obtained.

I do not have any rules for making pictures and have never stopped to consider them. I just like certain kinds of lighting effects and go about getting them as I go along. I have always been fond of black areas because they seem to give composition and design in the print and, while blacks are taboo in newspaper work, there are still many cases where black areas will produce brilliant effects, so I use black backgrounds and shadows and I think of design and composition more than anything else as I work.

I never try to pose a person, but let the subject act normal. If a photographer starts posing his subjects he is apt to get them in position they are not familiar with, as everyone has a different way of standing, sitting, leaning, etc., and cannot be told to do it differently without an awkward effect. I try to get a person to do whatever he or she would do to suit the mood of the clothes being worn, clothes having as much to do as anything else with the mood of the sitter. In sport clothes the mood might he to recline, while in formal dress such a thing would not he thought of. Here again I avoid rules. If I started to analyze too much what I do and why I do it, it would handicap me and might result in pictures being too much alike, which I try to avoid. By depending entirely upon my mood and my reaction at the time and a few gags to get me started I get more personality into the picture and composition and technique seem to be automatic.

After a long period you instinctively do form some ideas as to certain lighting effects for certain results and try to have these ready when the sitter arrives, because in the picture business we have to work so speedily. Where it is a question of speed, everything else must be subjected to it, but I find by careful planning heforehand we get some pretty good pictures.

It is unfortunate that so much haste is necessary in our particular work. We are expected to shoot half a dozen pictures in about three seconds and then if they are not good, or as good as the sitter expected, we are to blame for not doing a good job, where in reality the pictures would have been what the sitter expected if he or she could have given us a second or two more. But working fast is part of the requirements of our job. The shot of Rita Hayworth was made very hastily at the end of a commercial job for Auto-Lite Spark Plugs. I made half a dozen shots, one of which I sent to *Esquire*. The photograph of Joan Crawford is just one picked at random from her latest sitting. Rita Hayworth and John Crawford are two entirely different personalities, which is the reason the photographs are so different. Joan Crawford, to me, always has been the most decorative subject I have ever photographed. There is a strength and vitality about her that gets across and prevails even in the finished print. If I were a sculptor I would be satisfied with just doing Joan Crawford all the time.

Everyone has something that lends itself to a good photograph, whether it be charm, features or personality. It is the photographer's job to emphasize the fine points to the camera's eye.

Frontispiece

As many of our readers have asked for some data on William Mortensen's studies which have been appearing in the magazine, Mr. Mortensen has kindly supplied the following information pertaining to the photograph on page 2, which we are including here rather than mar the beauty of the photograph with any text:

Camera 4x5 Graflex, series D; Dagor 7-inch lens; film, Eastman Super-ortho X; exposure one-fifth second at F16; developed in Defender 6D for 50 minutes; lighting, modified basic; printed on Kodalure G; print developer D-72; finished by Abrasion-Tone.





ON LOCATION IN HAVANA

By Henry O. Imus

"Weekend in Havana," an original story, places Alice Faye, Cesar Romero, Carmen Miranda, John Payne, Cobina Wright, Jr., George Barbier, Chris Pin Martin, Sheldon Leonard and Billy Gilbert in a glamorous environment. Payne is the vice-president of a New York-Havana steamship company owned by Barbier, and is engaged to Miss Wright, who plays Barbier's daughter. But













Left to right: Cabana Fortress; camera set-up along the bank; overlooking Havana; starting to lay the 600 feet of dolly track; Leo McCreary in center standing on top of wall; set-up at the race track.

in the course of making the company's peace with passengers discommoded when one of the line's ships runs aground on a Florida reef, Payne meets Alice Faye, who is a New York shopgirl on a long saved-for vacation.

The story is built around what happens when Payne attempts to compensate Miss Faye for the holiday which had been ruined by the shipwreck, and the complications which ensue when the two become involved with Leonid Kinskey, a bellboy with a penchant for furthering other people's romances, and Miss Miranda, a singer, and her boy friend manager, Romero, who has an insatiable taste for roulette—on the losing side.

The crew that went to Cuba included James Havens, director; Harry Jackson, first cameraman; Aaron Rosenberg, assistant director; "Del" Delavigne, location manager; Leo McCreary, grip (construction engineer); Henry Kruse, Technicolor assistant; and myself as Technicolor technician. All were from the Fox lot except Kruse and I. In addition we had five Cuban grips to help Leo. By the time we left the













Left to right: Scene in the bow of a boat; another view of the 600 feet of track; (left) Harry Jackson, Henry Kruse and Henry Imus; the ox team that rescued us the day of the deluge; (left) Harry Jackson, Leo McCreary and Cuban grips; another view of the good old oxen and their drivers.

island they had become quite good grips and we were sorry to say goodbye to them. Pepi, the local "contact" man, knew everybody and could get everything—at a discount. Harry got to know Pepi quite well. Then there were the Cuban policemen, Rodriquez and Julio, and the tourist commissioner, Fernando Fernandez, who went everywhere with us, guarding us from harm and other things. We made quite a cavalcade.

The flight to Jacksonville was quite uneventful. At this point we had to quit the plane and continue by rail, due to adverse flying conditions. In fact, a northbound plane from Miami had crashed in the swamps and this accident caused much commotion among our families back home until our reassuring wires were received.

Due to the customary wrangle over film and equipment, Kruse and I had to stay in Miami over the weekend. The season being over, our short stay was rather dull. However, we did get to see the actual house that Al Capone lives in, so you might say our time wasn't wasted.

The City of Havana was a new experience for all of us. The sidewalk cafes, promenades and two-hour lunch periods were distinctly continental in character and the people semed to have a Parisian air of detachment. Good humor and politeness seemed to be the rule with the Cubans, and we came away feeling that they were grand people.

The city is very old and its recorded history antedates most of the rest of the new world. We got a few good shots of Morro Castle and Cabana Fortress.

Sloppy Joe's (going to the other extreme) is the classic bar and meeting place in Havana. One of our tougher assignments was to photograph the neon-lighted exterior of all the important night spots. Needless to say, in view of our early calls and night maintenance, we limited our participation in Havana's night life to a couple of drinks in Sloppy Joe's.

Our breakfast table at the Hotel Nacional de Cuba was situated in front of a window full of bullet holes, relics of the last revolution when the non-coms took over. This hotel was one of the largest I have ever stayed in; in fact, I believe it is considered one of the world's largest in point of floor space and ground area. Our only complaint was that our servicing and loading rooms were at least half a mile from our rooms and slowed us up when packing. We could have used a portable short wave radio.

Sea food was good all over Havana and in Miami, too. Grouper, red snapper and other kinds. Other than this the food was ordinary to downright plain. And the service—it seemed that nothing less than two hours was normal for dinner, which didn't fit in with our program. Box lunches were about on par with those we get in Hollywood.

All of the drinks were good, rum being especially plentiful. Cuba libres cost in some places the same as a coke does here at home. The beer was variable.

Sometimes the weather became a little hot, but the almost constant trade wind kept the humidity down. The nights were cool. We had several days of intermittent showers and overcast skies. In one rainstorm we were caught two miles from the highway and had to pull all the cars out with oxen. That was the day old demon rum saved our lives.

We had to go off the highway to a bank overlooking the beach, parking the camera truck and carrying all the equipment over a ravine and up again to the camera set-up. There had been much joshing about the weather and finally one little cloud came up. Within ten minutes that cloud became so black that we called for the umbrella, believing it might rain—and did it! Eight of us huddled under the umbrella while the rain came down in sheets, with the wind doing tricks to accompany it. It blew the cloud one way, then reversed and sent it back again, until finally the cloud seemed to be doing a Havana rhumba. It was an hour and fifteen minutes before the sun came out again, and there we were off the highway, with a steep climb to get back, but we had the answer as shown by the team of oxen in the accompanying pictures.

Leo McCreary had to lay 600 feet of continuous dolly track for one very difficult walking plate. It was the love sequence and had to be a night effect. So the lumber truck formed an important part of our parade. We lugged that lumber the length and breadth of the island looking for a suitable place to lay it. Success came just as we were about to leave Cuba. Leo was set on mahogany track but had to be satisfied with long leaf pine due to the extra weight of the mahogany.

The camera crew had to join the local union in order to work on the island. We got our pictures taken and received regular union cards and permits. While the officials were most friendly, the difference in language made conversation difficult.

And then there were the cigars. Mention of this brings back pleasant memories of an act which Harry and Pepi would go into every morning about 10:30. First they would discuss sizes and shapes of cigars—perfectos, fancy tales, club perfectos, etc. Then the quality—claro, claro-claro, and finally the prices, and Harry and I always brought up the time that Pepi outsmarted him on a cigar deal. I never did quite get the rights of it, but they seemed good friends in spite of their harsh words.

All business in Havana is conducted on a 10 per cent basis. If a guide brings you into a store, he gets 10 per cent of the purchase price as a credit from the dealer and the clerk gets 10 per cent, too. If a chauffeur drives you there, he also gets 10 per cent, so it behooves the buyer to beware of too many helping hands.

We were so busy servicing equipment and loading film that we didn't see any of Havana's famous night life until our last night in town. That night our Cuban grips chose to throw a party for Leo and invited me along. So the four grips, Leo and I got into a taxi and started off on a tour of Havana. Leo had to have a personal orchestra, so we picked up a couple of street singers, a little fat guitar player and a long thin maraca man, and they serenaded us all over town. At each cafe we would bring in our own orchestra. Of course there always was competition and I might say even interference from the home orchestra. We saw all sorts of things that night, including the famous "Shoeing the Mare."

One unexpected taboo was the prohibition of rhumba dancing by Cuban women: another is that no unmarried Cuban girl is allowed to go anywhere in public without a chaperon. And—these rules are rigidly enforced.

We covered over 3,000 miles by car during our four weeks stays and ran 96,000 linear feet of film through the camera. The trip was enjoyable, so much so that I hope some day to be able to visit Havana and relax.

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619 TAFT BLDG. HOLLYWOOD, CALIF.
KALART









"Week-End in Havana" Twentieth Century Fox Production



Charlie "punches in" to do his stuff.



He proceeds to thread up a camera.



"Hm—no flies on this lens."



Diffusion seems all right.



"Hey, what's all the delay?"



"How did I get all balled up in this?"



Tired, he lies down to read directions.



"Now for the report."



Distance to camera, "Perfect 34, I'd say."



On the camera boom.



Holding the slate.



"Now for the film report. Wow, what a day."



Gene Autry and Carol Hughes

"HARMON of MICHIGAN"--- AND COLUMBIA

By Gene O'Brien

Tom Harmon won his letter at Columbia in sixty days.

It took him longer than that to win his letter at Michigan, but Michigan is a University and Columbia is a studio. Students have a faculty (no pun intended) of matriculating at motion picture studios faster than at higher educational institutions.

"Harmon of Michigan" may not be one of the most important pictures of the year, but it is just one more evidence of Columbia Pictures ingenuity in producing pictures of popular appeal. Few there are who could possibly dispute the popularity of Tom Harmon who broke practically all existing gridiron records during his three years of Varsity Football at the University of Michigan.

Morrison Bloomfield Paul, member of Local 659, was assigned by Whitey Schafer to handle the stills on "Harmon of Michigan." The company under Director Charles Barton went to the Los Angeles Memorial Coliseum for the football material and during the first day's shooting Paul "wrapped up" some of the best football action that has ever been made.

The kicking shot of Harmon was said by the football star himself, to be one of the best pictures of football action he had ever seen. In talking to your correspondent about the shot "Galloping" Tom said: "During my entire football career expert football photographers have been trying for that shot and then the first day I am playing "make-believe" football, this Paul who never covered football in his life gets, not only the best shot ever made of me, but the best kicking shot I have ever seen."

The action is stopped at the absolute peak. Both arms are at full extension, the kicking leg is at the top and the body has not yet begun to descend. It is the perfect example of arrested motion made with an ordinary 4x5 Speed Graphic.

For those interested in detail the picture was made on Super XX film at 350th of a second with an 8 stop. An Aero No. 1 Filter was employed and the light was morning and good.

"Harmon of Michigan" is scheduled for release in the middle of September, but may be delayed until the opening of the football season for obvious reasons. A pre-release showing of the picture, however, is set for the week in which the Chicago Bears - All-Stars game is to be played. One of Chicago's better picture houses will hold the run. Tom Harmon will no doubt make an appearance during the showing since he is to display his wares with the All Star team.

"Harmon of Michigan" was produced by Irving Briskin under the supervision of Wally MacDonald. The cast includes Anita Louise, Forest Evashevski, "without whom," to quote Harmon, "I would never have been heard of," Oscar O'Shea, Warren Ashe and the popular "By the Way" Bill Henry of the Los Angeles Times and the Columbia Broadcasting system. John Stumar was Chief Cinematographer and his crew ncluded Operating Cameraman Dave Ragin and Assistants Sam Rosen and Roy Babbitt.

Description of Pictures
Pages 14 and 15

Top, left to right: Tom Harmon climbs into the air to shoot a fast pass during scenes of Columbia's football picture, "Harmon of Michigan"; minus helmet, Harmon rips away in familiar touchdown style as his Michigan team-mate Forest Evashevski blocks out the tackler, Ambrose Schindler of University of Southern California; Harmon and Evashevski leap into action during practice for the picture. Lower: Off the Ground: Harmon, whose familiar number "98" is known to millions of grid fans, leaps off the ground as he throws a pass during rehearsal of football scenes. Greased Lightning! Harmon claws the earth for a fast start as he gets away for a run: kicking ability which helped Harmon win games at Michigan was in good form for the picture. Evanschevski, left, is the ball holder for the goal try.

Hollywood to Chungking

For the first time in the history of Hollywood the sets of a war film have "stood in" for the terrible reality.

Maurice Liu, Chancellor of the Los Angeles Chinese Consulate, has just finished an intensive three weeks' course in war photography with Chief Cameraman Leon Shamroy on the set of 20th Century-Fox' "Confirm or Deny."

Liu left last week to film a documentary, on 35 mm., and lecture illustrations in 16 mm. Kodachrome, of bomb-wracked Chungking and the other war-torn parts of China.

On "Confirm or Deny" he was particularly fortunate in being able to practice set-ups and lighting problems on sets which in most respects reproduce the reality of the war conditions he will face in his homeland. The 20th Century-Fox picture tells the story of an American war correspondent in London during an asserted invasion attempt last year, and the sets include bombed streets, shelters, cellar refuges, etc., all of which Liu will shoot in China.

Although Liu has had extensive experience in black-and-white and color photography, he thought it desirable to study with Shamroy before making the difficult trip. Shamroy and Liu have been friends for many years, and the studio, as well as Shamroy, gave Liu carte blanche in using its facilities for study.

Since Shamroy spent 1930 in photographing for the Huntington Ethnographic Expedition much of the Chinese terrain which Liu will cover, he was able to give the young diplomat valuable tips concerning what and what not to do under the circumstances.

Liu's primary interest on the expedition will be in photographing in detail the vast underground industries of Chungking, which are carried on in catacombs hewn out of the rock beneath the Chinese capital. In addition, however, he will survey the Burma Road, parts of Western Szechwan

(Continued on page 16)

FAXON DEAN
INC
CAMERAS, BLIMPS-DOLLYS
FOR RENT
No. 22184
4516 Sunset Boulevard Night, SUnset 2-1271









(Shot with 4 by 5 Speed Graphic)

Stills by M. B. Paul









(See page 13 for description of pictures.)



Joan Bennett, co-star of "Confirm or Deny," says good-bye and good luck to Mauriee Liu, Chaneellor of the Los Angeles Chinese Consulate, who leaves this week to make a film survey of his eountry for the Chinese government. Liu has just finished a three weeks' course in einematography on the set of the film, with Chief Cameraman Leon Shamroy (left) as instrnetor.

Hollywood to Chungking

(Continued from page 13)

and much of the Chinese northwest country.

Part of his stay in Chungking, where his father is an important official in the Chinese Nationalist government, will be devoted to laying out an underground film processing laboratory. If plans develop as expected, Liu will purchase equipment for this on his return to Hollywood at the end of six months.

With him Liu took the following equipment, in addition to the usual auxiliary lighting and other apparatus: Bell and Howell studio camera, Eyemo, two Filmos and two Leicas, 20,000 feet of Plus X 35 mm. and 10,000 feet of 16 mm. Kodachrome. He uses a GE exposure meter.

Negative shot in China will be returned to Hollywood for processing. Test strips of the Plus X will be developed in China, while tests strips of the Kodachrome will be Clippered back to Hollywood for a cabled report.

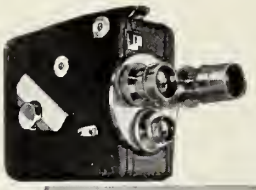
The 35 mm. negative will be cut and edited by Liu, when he returns here in six months, into a documentary film for general distribution, while the Kodachrome will be used to illustrate an American lecture tour which Liu will make subsequently.

"My sole purpose in making this trip," Liu said, "is educational. The film shot will not be a travelogue nor a newsreel, but will be along the documentary lines outlined by Flaherty and the others who have achieved success in this medium."

The entire company of "Confirm or Deny" cooperated with Liu during the three weeks he spent at 20th Century-Fox. Even Don Ameche and Joan Bennett, co-stars of the film, cooperated by serving as Liu's models between "takes" and during the lunch hour.

Just before saying goodbye to Shamroy, Liu summed up the problems of such a job by saying:

"There's only one trouble—you can't have retakes!"



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Never to be forgotten scenes glorified in natural color or in just plain black and white are so easy to make—and so economical with this new 8mm Camera sensation. It gives you more for your money. *Eastman Magazine Loading. *Turret Lens front, mounts three lenses. *Five operating speeds. It's loaded with new and worthwhile features. See Perfex Movie and Still Cameras at your dealer's. Literature free!

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HOLLYWOOD, CALIFORNIA

TELEVISION

By Harry R. Lubcke,
Director of Television,
Don Lee Broadcasting System

Since Easter Sunday of this year television receiver owners in Southern California have viewed Don Lee telecasts several times weekly. Charles Correll, the "Amos" of "Amos and Andy" writes in that he has had as many as thirty guests at his home in the Hollywood hills to witness the boxing bouts telecast from the American Legion Stadium. The television service in Hollywood is second only to that available in New York City; thus, information thereon should be of interest.

To all these who have visited greater Los Angeles or the San Fernando Valley the new location of the Don Lee Television transmitter W6XAO is immediately apparent atop Mt. Lee in "Hollywoodland." The hundred foot square three-story building, flood-lighted at night, and the three-hundred foot television tower command attention from below except when wreathed in clouds. The top of the tower, being two thousand feet above sea level is the highest point in the city limits of Los Angeles.

Telecasts are made on the following schedule: Friday evening, 8:30 to 10:45 P.M. Professional boxing bouts from the Hollywood American Legion Stadium, Hollywood Blvd., at El Centro. Reid Kilpatrick, television commentator. Music by the American Legion Post 43 Band, Silvio Savant, Director. Monday evening, 8:30 to 10:45 P.M. Professional wrestling bouts from Hollywood American Legion Stadium. Reid Kilpatrick and guest sports commentators. Professional Coast League baseball from the "Hollywood Stars" Gilmore Field, Beverly and Fairfax Blvds., each Sunday throughout the baseball season, 1:30 to 6:00 P.M. Mike Frankovitch television-radio commentator.

Southern California television lookers are fortunate in witnessing perhaps the best sporting events which take place in the area. In other areas such events are not always available to television. The vision of Pacific Coast sporting executives in becoming associated with this newest form of mass entertainment and education is to be commended.

On-the-spot television pickups as scheduled above are viewed by two television cameras at the scene. Portable control equipment and Don Lee transmitter W6XDU beam the television waves back to the home transmitter atop Mt. Lee for retransmission to the many homes and public places having television receivers in Southern California. Instantaneous change of scene from long shots to close-ups is possible by electric switching. At baseball games, telephoto shots of interesting plays on the bases may be televised as well as of the pitcher-batter-catcher combination by a camera behind home plate.



Don Lee Television Building and antenna tower atop Mt. Lee in Hollywood.

The Don Lee Television transmissions may be received in the greater portion of the populated area of Southern California. Television receivers are already in operation in the cities of Pomona, El Monte, Whittier, Santa Anita, Arcadia, Santa Ana, Long Beach, San Gabriel, Pasadena, Playa del Rey, Santa Monica, Beverly Hills, San Fernando, Van Nuys, North Hollywood, Burbank and all other cities less distant than those named from Mt. Lee, Hollywood. Reception up to 60 miles from Mt. Lee is expected, but has not yet been proven by installation of television receivers in homes by the public.

The Don Lee television station operates on new channel number 1 on a visual frequency of 51.25 megacycles and on an aural frequency of 55.75 megacycles. 525 line 30-60 frame interlaced Federal Communications Commission commercial standard television images are broadcast.

An additional service, personally provided by President Thomas S. Lee of the

(Continued on page 25)



The Don Lee portable television transmitter W6XDU shown in the upper audience section of the Hollywood Bowl, televising the Easter Sunrise Service, 1941. The "Hayrake" beam antenna is in the top foreground pointed to "beam" the message to the maintransmitter atop ground pointed to "beam" the message to the main transmitter atop cable shown on the poles, the cable running down to the cameras positioned in front of the stage. The image monitor equipment is located in the bowl lighting control booth.

(Pictures Courtesy Don Lee Broadcasting.)



"Washington First in Apples"—from a 16mm Film Produced by J. Walter Thompson Co.

"SWEET SELLING"

By Hamilton Riddel

"Sweet" is the word for it! This matter of the Business Film and the "sweet" job it does for sales. Unlike any other form of advertising, an attractively produced commercial movie is capable of building, maintaining and increasing the sales of American products and goodwill. Sight and sound, color and motion, plus entertainment—all these are blended into a powerful medium, one that is scoring a remarkable record of achievement in every city and town in these United States.

The experience of the J. Walter Thompson Advertising Agency is a case in point. About three years ago, after careful consideration and researeh, this nationally-known firm established its own motion picture department and entered the subtle but fertile field of business film production. To the advertising concern, it appeared that a separate motion picture department within its own organization, devoted solely to the movie medium and geared to professional advertising standards, could very well lead to better merchandising movies for its clients. With such thought in mind, the motion picture department of J. Walter Thompson was founded. It is said to be the only national advertising agency having a department primarily concerned with business film production. Subsequent results have demonstrated clearly the sound reasoning of the original premise of this agency.

Activity of the company's picture department calls for close teamwork, in the smooth working of the unit, between the New York City and Hollywood offices. In the east, executive Fred H. Fidler starts a film rolling. Here in the west, Norman Blackburn, long identified with studio work in the movie colony, sees to it that all details of actual production are carried on to successful conclusion.

In the spacious audition studio of the J. Walter Thompson Hollywood office, Mr. Blackburn showed two business films which the organization has recently produced. To be sure, the two subjects were vastly different types . . . a film on the savoury Apple; the other, on Petroleum Research . . . yet each was an instructive, lively advertising presentation that blended shrewd sales appeal with pure photogenic entertainment, comparable to the best theatrical screenings. Here, indeed, was convincing proof of the universal appeal of the Business Film and its inherent ability to make for "sweet" selling.

The first subject viewed was an 800-foot 16 millimeter film, "Washington First In Apples," photographed entirely in Kodachrome. Produced under the personal direction of Norman Blackburn, with photography by Joe Yolo, and commentary by Don Wilson of the radio networks, the story of the prosperous Apple Industry was told in beautiful sequences of natural color photography. Scenic highlights of the State of Washington and of its famed apple crop, photographed throughout the different seasons of its growth, as well as the great activity during the picking season, were depicted in eye-arresting shots. Thence on to the packing houses, where the apples are graded, boxed and shipped to the markets of the country. There were human interest touches, too, of youngsters enjoying the rich red fruit, and of colorful apple festivals. Presented in big close-ups of natural color, an instructive sequence was incorporated in the film which showed the many varieties of apples produced in the

(Continued on page 26)



Convenient To Use—

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KODAK Prepared Developer Powders are convenient to use —need only to be dissolved in the required volume of water to be ready for use.

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Specify KODAK TESTED CHEMICALS

16MM. DEPARTMENT

On the Subject of Camera Speeds

Probably one of the most useful, but most neglected, controls on an amateur motion picture camera is the *variable speed control.* Many of the amateurs to whom we have spoken considered the adjusting knob a gadget that might just as well have been omitted; others who understood its diversification were frankly stymied by the many problems which its use might poise; and still others "rushed in where angels feared to tread"—and failed. But it *can* be used very successfully.

Let us look first at the underlying facts. The standard silent camera speed is 16 frames per second, and the standard sound speed 24 frames per second. But we'll assume that you are the average amateur who does not intend to add sound on the film. (It is important here to distinguish between supplementary background music, such as phonograph recordings, with which the standard speed is retained, and actual sound recording on the film rack, which of course will require the 24-frame per second sound speed.)

The shutter consists of a metal disc, approximately half of which is open at the exact instant at which the film remains stationery to permit exposure, synchronized with the intermittent movement of the film gate so that that open portion remains between the lens and the film only for the duration of the exposure. Then, as the metal portion of the disc moves in between the lens and film, shutting out the light and closing the shutter, the claws of the intermittent movement engage the sprocket holes of the film and pull it down the length of one frame. The next frame is then in position for an exposure. The shutter, of course, is rotating, and as the claws of the movement leave the sprocket holes to repeat their part of the process, the open sector of the shutter is once again at the photographic aperture behind the lens, ready for another exposure.

The shutter sector (the amount of opening built into the disc) varies with the make of the camera, and depends largely upon the construction of the individual intermittent movement. In the Eastman camera the open sector is exactly one-half of the entire disc (180 degrees). And while it may frequently be less, it is never greater. Running at the standard speed of 16 frames per second, therefore, a complete revolution of the shutter will be made in 1/16 of a second. The time allotment for each individual frame, from the moment at which the intermittent movement starts the cycle and the claws engage the sprocket holes, through the time it is brought into place behind the photographic aperture, and until it comes to rest immediately below it, is 1/16 of a second. But we are interested only in one-half of this time—the 1/32 of a second interval during which the exposure is being made.

The exposure, then, becomes directly dependent upon the speed with which the shutter is rotating, which, in turn, is dependent upon the speed of the camera: the greater the speed of the camera, the faster is the rotation of the shutter and the smaller the time interval during which the open sector remains in front of the photographic aperture permitting light to pass from the lens. Briefly stated, the greater the camera speed, the shorter the exposure, and the slower the camera speed, the longer the exposure.

In order for action to appear at a natural pace on the screen, the projector and the camera must be run at the identical speed. We feel, therefore, that those amateur projectors which have been built with a rheostat control to permit an undefined speed of from five or six to 32 or 40 frames per second, constitute a hazard to the average amateur.

Let's assume, however, that we are running at the silent standard. This is the speed for best results generally, because a speed greater than 16 frames per second is an unnecessary waste of raw film, and a speed of less than 16 frames per second will give an unsatisfactory flicker when it is projected at the slower speed. Now, operating the projector at the standard speed, any action that has been photographed at less than the standard speed will appear jumpy; and any action that has been photographed at greater than standard speed will be slowed down. For example, action consuming one second and photographed on eight frames of film in that one second, and then projected in one-half second (at 16 frames per second) will appear abnormally fast; and conversely, if action is photographed on 64 frames during that one second, and then projected at standard speed, four seconds will be required for projection and the result will be slow motion.

Now to put these basic facts to work. Perhaps the most frequent use the amateur will find for his variable speed control is the eight-frame speed when lighting conditions are such that the usual 1/32 of a second exposure will be too short. This is especially true of Kodachrome film when photographing sunsets, sunrises, etc. By slowing the camera down to eight frames, the exposure will consequently be lengthened to 1/16 of a second. It must be emphasized, however, that only scenes in which there is no action of any proportion, should be photographed in this manner.

Occasionally it is desired to speed the action up, (the camera speed, of course, is slowed down) especially when photographing trains that are moving slowly, or horse races, or some athletic events, etc., particularly when a lens of long focal length is used and the angle is such that the action is coming directly (or nearly so) toward the camera. Long focal length lenses have a perspective that minimizes the effect of action coming toward the camera, and speeding camera action up will provide a more natural appearance under normal projection. But remember when using the eight-frames-per-second camera speed, that the exposure becomes 1/16 of a second, and be sure to use the next smaller stop when shooting in normal light.

The result of shooting a normal scene at a speed greater than 16 frames per second is slow motion, when the film is projected at a normal rate of speed. If you are shooting a scene at, let us say, four times the normal speed, or 64 frames per second, to slow the action down to one-fourth normal, be sure to bear in mind that the exposure now becomes one-fourth of 1/32 of a second, or 1/128 of a second, and the lens aperture will have to be *opened up* two stops, since each stop represents an increase of 100% in exposure.

For those interested in miniatures, etc., this control will be found to be a necessity. The swaying of trees, the ripples on the water, or *any* type of movement which would appear normal to the eye in the scene itself, will require faster camera speed so that the action will be slowed down to the point where the perspective of the movements in the minature matches those in the scene as it appears to the eye. Look closely at ripples appearing on water at some distance from you—do you notice how *slowly* they appear to be moving? And so, in all action from the swaying of leaves to mammoth explosions, you can give that distance to the scene by slowing the action down by means of an abnormal camera speed and normal projection.

With judicious and intelligent handling, variable speed control will go a long way toward making your pictures more interesting.

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In this scene from the new M-G-M feature "A Woman's Face," you see

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● When we asked John Arnold, head of the Camera Department at Metro-Goldwyn-Mayer for some pictures showing the use of lighting in black-and-white photography, he gave us this shot from the production "A Woman's Face."

Few pictures could show more clearly the application of the latest technique in modelling lights. See what flexibility you have with G-E MAZDA lamps in inkie equipment . . . all the lights you want, to create the effect you need, even in limited space.

Thanks to today's equipment, you can *control* G-E MAZDA lamps beautifully to hit just the spots you want to emphasize. They're good for process work, for special effects, and for color. They go into action fast, to help you speed shooting schedules. And among the 9,000 different types and sizes of G-E MAZDA lamps are many that help to produce almost any effect you want. Are you using them to help you? General Electric Company, Nela Park, Cleveland, Ohio.

GENERAL ELECTRIC

MAZDA LAMPS

TRADEWINDS

Graflex Announces Flash Synchronizer

The Graflex Flash Synchronizer has just been announced by the Folmer Graflex Corporation of Rochester. Engineered to new high standards from the ground up, it has been established during extensive use by the U. S. Army that it will maintain synchronism with Supermatic and Compur shutters long after the point at which momentary exhaustion or aging of the batteries, or low temperature, would have thrown many other outfits totally out of adjustment. It can be used on all cameras with between-the-lens-shutters capable of being synchronized (such as Supermatic and Compur) that have lensboards large enough to accommodate the solenoid release.

This synchronizer is supplied in two models—a compact 2-cell unit that will probably be preferred by users of the Miniature Speed Graphic, and a 3-cell unit offering a somewhat greater battery life. The battery cases differ in length, and the solenoid releases have certain internal differences to assure the most efficient possible operation with the current available. Since the two units are identical in their performance characteristics, aside from the matter of battery life, both synchronizers are covered by the following description:

The solenoid release is a cylindrical unit, so compact that it can be permanently mounted on the lensboards of the 3¼x4¼ and 4x5 Anniversary Speed Graphics and remain in position with the camera closed. Quickly-detachable mounts are provided for the Miniature Speed Graphic, and for previous models of the larger sizes. The battery case may be attached to a suitable bracket on either side of the camera, and the new cam-clamp provides instant and firm attachment by the push of a lever. The case separates easily for the occasional change of dry cells, and can be both adjusted vertically and rotated. There are two parallel outlets for multiple-flash work with the connecting cord and another for standard household plugs, as well as a series outlet for focal-plane synchronization and remote control. The switch is associated with the series outlet in such a way that accidental ignition of the lamp through the switch cannot occur when this outlet is in use. Silver points in all important connections assure positive contact.

A built-in focusing spot-light, controlled by a convenient slide-switch, directs a beam of light on the subject to assure accurate sighting and focusing even in total darkness and to serve as an indicator of approximate battery condition.

Two types of highly efficient reflectors are available: a 7-inch reflector for medium-base lamps, adjustable vertically for various sizes; and a 5-inch reflector (approved by lighting engineers) for concentrated illumination with miniature bayonet-base lamps, distributing the light evenly over the field of normal focal-length lenses. Both have self-locking and self-centering attaching brackets, which permit instant removal and attachment in the correct position. Used lamps are automatically released by ejectors, thus permitting quick changes without burnt fingers.

The major basic principle of the Graflex Synchronizer is the balance between the mechanical and electrical elements of its inertia-type solenoid release: it is designed to work on a battery having an output as low as 3 amperes, yet its accuracy is not noticeably affected by even the full 10-amp output of a 3-cell unit when the batteries are new. As a result *any* standard dry cell that fits in the battery case is completely satisfactory, and there is an ample reserve of current for accurate lamp ignition. Low temperatures causing a sharp drop in the output of even the freshest dry cell, or momentary exhaustion following a rapid series of flashes, or the loss of power that accompanies old age—none of these is likely to throw it "out of sync" until battery output drops to the point where lamp-ignition failure is to be expected.

Due to the low current consumption of this new inertia-type solenoid release, three cells deliver enough current under most conditions to permit firing several lamps on suitable extension cords without readjustment of the synchronizer. A remote-control with a 25-foot cord, regular connecting-cords 17 inches and 36 inches long, and a focal-plane connecting-cord are available.



The new Graflex Speed Synchronizer

Announcements from Bell & Howell

New Exposure Calculator on Filmo Cameras

From Bell & Howell comes word of an interesting new exposure calculator which is now being built into the B & H 16mm. magazine-loading line—the Filmo Auto Load, Speedster, and Auto Master Cameras.

The new guide compensates for film emulsion speed, filter factor, and camera operating speed, in addition to the important external factors governing exposure—brilliance of sunlight, type of scene, season, and time of day.

Despite its complete coverage of all details, says B & H, the new calculator is amazingly easy to use. With a single turn of the dial, it gives direct readings for Kodachrome film at normal camera speed, which, after all, is what thousands of owners will want. Then, any additional compensating adjustments are made one at a time, and the proper F stop is clearly indicated at each move.

The new guide is of the familiar convex metal dial design, with an outer disk rotating to effect

the adjustments. Finished in maroon and chromium, the new calculator is said to present a smart appearance.

B & H Reels Given Severe Test

From Filmo headquarters come the details of a rigid test just given to B & H steel reels.

For more than four and one-half days a 1600-foot Bell & Howell steel reel was drenched continuously with a salt spray bath. At the end of that time, says B & H, the reel was found to be in perfect condition. The original luster was slightly dulled, but the finish was not basically affected in the least. No peeling, no chipping or cracking. No chance for corrosion or rust.

Bell & Howell states that this test is conclusive proof of the rust-resisting properties of the Bonderizing process and of the fine lacquer finish, both of which are applied to all B & H steel reels.

With the recent introduction of the 400-foot 8mm. reel, and the 400- and 2,000-foot 16mm. reels, the B & H line of rustproof steel reels is now complete—from 200-foot 8mm. to 2,000-foot 16mm.

Filmo Slide Master for Still Projection

Of interest to many people is the new Filmo Slide Master for the projection of glass or paper mounted 2x2-inch Kodachrome or black and white transparencies.

Filmo Slide Master is said to be light and extremely portable, and will produce brighter, more uniformly illuminated, and more sharply defined still pictures than heretofore have been considered possible. The new unit is claimed to offer a list of features hitherto not to be found in any slide projector.

Perhaps the most interesting feature of the Slide Master is the new "base-up" lamp, which slides easily into the lamphouse from the top and which burns with its base upward.

The new lamp retains the familiar B & H pre-focusing, pre-aligning ring, which this company has always used on its motion picture projector lamps to assure positioning the lamp for maximum illumination. The top of the Slide Master lamphouse is a hinged snap-cover, which automatically breaks the electrical circuit as it is opened—thus lamps may be interchanged with perfect safety. And since it is the cool base that is upward, gloves are not needed to remove a hot lamp.

Filmo Slide Master is designed to take 500-, 750-, or 1,000-watt baseup lamps, providing whatever degree of illumination is required. B & H states that there is no light spill from the Slide Master, and that the darkened room stays dark, except for the brilliant picture on the screen.

A powerful, motor-driven fan circulates a forced draft of cool air throughout the projector, with special attention given to cooling the slide. The motor automatically increases speed, and therefore the blast of cool air, when a 1,000-watt lamp is used, and decreases speed when lamps generating less heat are used. Motor and fan bearings are sealed in, lubricated for life.

Two convenient, clearly marked switches are provided, one releasing current to the entire projector, the other operating only the lamp. The lamp cannot be turned on unless the fan motor is running, thus avoiding all possibility of overheating.

Filmo Slide Master is offered with a choice of 3½-, 5-, or 7½-inch F4.5 lenses, and B & H states that all lenses are anastigmatic, and are interchangeable. Lenses are focused by a rack-and-pinion assembly, which operates by turning a large, conveniently placed knurled knob. The lens may be locked in focus.

Self-locking tilt controls, one at each end of the projector, provide up or down tilt through an extremely wide range.

The condenser includes two heat absorbing glass filters, for maximum slide protection.

The slide carrier is of die-cast metal, with special air passages providing for circulation of free,



The new Bell & Howell Filmo Slide Master for the projection of 2 by 2 inch slides.

cool air around the slide. The carrier is of the conventional two-slide type, shifting horizontally to permit change of slides while one slide is being projected. Slides are held filmly in the focal plane by springs.

Filmo Slide Master has a brilliant, all-metal, Rhodium-surfaced reflector which is factory adjusted. Although easily removable for cleaning, it can be reseated only in the one correct position. In fact, B & H states that all parts of Slide Master's high efficiency optical system are easily removed for occasional cleaning.

Filmo Slide Master operates on 100- to 125-volt AC or DC.

Kodascope Eight-33 Projector

The new Kodascope Eight-33 Projector, manufactured by the Eastman Kodak Company, contains a number of features appealing to home movie fans interested in large, brilliant, and uniformly lighted screen pictures. The optical system includes a one-inch f/2 Kodak Anastigmat projection lens, highly corrected to give excellent definition at all recommended projection distances, and easily focused by means of a small arm on the lens barrel. Directly behind the projector lamp is a polished metal mirror, and in front of the lamp is a condenser lens that can be easily removed for cleaning.

Affording finger tip control of major projection functions, the motor switch, speed control, and lamp switch are located on a single panel. The lamp and motor circuits are so arranged that the lamp will not light until the motor switch is closed, and the lamp can be turned off for rewinding. An automatic safety shutter drops into place between the film and the condenser if the speed of the projector becomes too low. Of high quality, the powerful 100- to 125-volt, D.C., or 25- to 60-cycle A.C. motor assures smooth projection, and an efficient ventilating fan, mounted on the end of the motor shaft, blows air directly on the lamp and then through louvers in the top of the lamphouse.

Projector head, reel arms, fan house, lamphouse, and base of the Kodascope Eight-33 are of die cast metal construction, finished in gray wrinkle enamel. A convenient carrying handle is cast as part of the housing. The lamphouse is readily removeable, providing easy accessibility to lamp and condensing lens.

Located on top of the projector, a positive framing device moves the film with respect to the gate, which makes it unnecessary to alter the projector tilt following the framing operation. Both the gate and pressure pad are finished in highly polished chromium plate. A simple catch holds the hinged film gate open for easy threading and cleaning. On the front of the projector is a threading knob which permits checking threading operations before the projector motor is started.

This new Kodascope is regularly furnished with the standard 500-watt, line voltage, T-10, biplane filament lamp, however, it may also be used with either 300- or 400-watt lamps. The reel arms accommodate 200-foot reels. To rewind the film after projection, the upper spring belt is attached to the supply pulley, and the take-up belt is removed from the power pulley. A screw-type tilting adjustment is located on the base of the projector.

Covered with airplane luggage fabric and of sturdy construction, a carrying case for the Kodascope Eight-33 is available as an accessory. It is sufficiently roomy to accommodate the projector, a spare lamp, two 200-foot reels, splicing and lubricating outfits.

Kalart Automatic Speed Flash

A new Automatic Speed Flash has just been announced by the Kalart Company. Fully automatic in that it requires no winding or cocking before use, this synchronizer is of the mechanical type. It is also a universal Speed Flash, fitting practically any type of camera having a cable release socket. It can also be used with miniature focal plane cameras by the addition of a simple adapter.

Extremely compact in size, measuring only 1½ inches in length and ½-inch in width, the Automatic synchronizer unit itself snaps into the jack terminals of the battery case, requires no cable release and eliminates all wires. An armored, flexible coupling connects the synchronizer to the shutter. The coupling is adjustable for variations in shutters.

In operation you simply press the cushioned release button, setting in motion the inertia rotor which controls the timing cycle, the same basic principle of the famous Kalart Micromatic Speed Flash. Synchronization is unaffected by varying finger release pressure. The Automatic unit may be used with either the Kalart Master or Compak battery cases. With the Kalart Master Battery case and reflector, the Automatic will retail at $18.50 complete. With Compak battery case-reflector combination the price is $14.95. The synchronizing unit only is $10.

New Kalart Range Finder

The Kalart Company announces its new model "E" Lens-Coupled Range Finder which will supplant the present Model "F". The new model range finder embodies the experience gained in the manufacture of more than 50,000 range finders.

This new synchronized range finder will fit all Speed Graphic cameras, Watson Press Cameras and most film pack cameras.

Streamlined in appearance, the new model has a bigger and brighter image which will enable photographers to focus accurately even under unfavorable light conditions. The range finder is of the superimposed image type.

Close working distance has been increased from 3½ feet to 2½ feet on the new shorter focal length lenses which will be of prime importance to those doing close-up work and portraits. Mechanically the new range finder will have all adjustments internally, simplifying installation and adjustment. The range finder is adjustable for all lenses from 10.5 to 16.5 cm. Adjustment permits owners to compensate for tolerances in focal length inherent in every lens.

The new range finder is said to be practically shock proof by ingenious suspension of the synchronizing mechanism.

Price of the new range finder remains at $24, plus nominal installation charge.

(Continued on page 24)

PATENTS

By ROBERT W. FULWIDER, *Patent Attorney, Los Angeles*

No. 2,248,056—Film Processing System. *Jesse M. Blaney*, Springdale, Conn., assignor to the Gov't of the U.S.A., as represented by the Sec'y of War. Application May 19, 1939. 3 claims.

A film treating device in which the film is passed through a solution while jets of liquid are directed onto the film to scrub it and overcome frictional drag.

No. 2,248,904—Process of Copying Lenticular Films. *John Eggert* and *Gerd Heymer*, Germany, assignors to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany. Application June 18, 1937. Germany June 25, 1936. 2 claims.

A method of copying lenticular film in which the central rays of the copying light are partially absorbed by a filter to compensate for the darkening of the edge of the field which occurred when the picture was taken.

No. 2,249,033—Apparatus for Printing Motion Picture Films. *Frederick T. O'Grady*, Flushing, N. Y. Original application November 1, 1937, now Patent No. 2,207,103, dated July 9, 1940. Divided and this application June 8, 1940. 2 claims.

A projection printer for motion picture films in which the negative may be moved along the optical axis a distance equal to the thickness of the film to compensate for the emulsion being on the front face or the rear face of the film.

No. 2,249,061 — Projection Device. *Harry H. Styll*, Southbridge, Mass. Application Sept. 20, 1937. 2 claims.

A projection filter which has a light polarizing filter which is damaged by heat, and an infra-red retarding filter spaced from the polarizing filter and between the latter and the light source.

No. 2,249,541—Production of Natural Color Photographs by Intermediate Dye Coupling. *Karl Schinzel*, Czechoslovakia, assignor to Eastman Kodak Company. Application Dec. 2, 1937, in Austria Dec. 3, 1936. 9 claims.

A method of forming a colored photograph by incorporating a coupling derivative in an emulsion, forming a dye by the action of the developer removing the undeveloped coupling derivative, and regenerating the original vat dye in the emulsion.

No. 2,249,542—Rehalogenation Process of Color Photography. *Karl Schinzel*, Switzerland, assignor to Eastman Kodak Company. Original application July 3, 1937. Divided and this application Dec. 5, 1940. In Austria July 7, 1936. 5 claims.

A method of producing color photographs by developing the latent image in a developer which does not affect the color formers, removing the undeveloped silver halide, converting the silver images into silver salt images capable of re-development, and developing them with a color forming developer.

No. 2,249,606—Stereophonic Sound Recording System. *Reginald T. Friebus*, assignor to Electrical Research Products, Inc. Application March 22, 1938. 8 claims.

A method of making stereophonic sound records by picking up sound close to the source, picking up sound at a distance from the source, mixing the sounds in different proportions, and separately recording the different proportions of the mixed sounds.

No. 2,249,975—Apparatus for Indicating the Amplitude of the Sound Record Made by a Sound-Film Cinematograph Camera. *Hans Friedrich Nissen*, Germany, assignor to General Aniline & Film Corporation. Application October 14, 1938. In Germany October 25, 1937. 1 claim.

A device in which a portion of the sound recording light of a variable area sound and picture recording camera is reflected into the view finder, the amplitude of the sound determining its color in the view finder.

No. 2,251,177—Optical System for Photography and Projection. *Richard Thomas*, assignor to Thomascolor Corporation. Application July 25, 1939. 6 claims.

A beam splitter making use of two glass half-cylinders, each of whose ends are parallel but oblique to the axis of the half-cylinder, the half-cylinders being placed so that their axes coincide and their ends form angles less than 180 degrees.

No. 2,251,232—Method and Apparatus for Developing Film. *Herbert W. Houston*, assignor to The Houston Corporation, Los Angeles, California. Application Nov. 7, 1938. 9 claims.

Apparatus for developing film comprising, in combination: a tank containing developing solution; a developing chamber filled with gas inert to said developing solution; and means for moving said film first through said developing solution and then through said developing chamber.

TRADEWINDS

(Continued from page 23)

Full Color Prints from Kodachrome Transparencies

In 1936 Kodak first announced Kodachrome for miniature cameras in 35 mm. and Bantam sizes. Since then inexpensive color prints from these Kodachrome transparencies have been the dream of thousands of camera addicts.

With the announcement of Kodak Minicolor Prints from miniature Kodachrome transparencies by the Eastman Kodak Company, at the National Photographic Convention in Chicago, the camera fans' dream has been realized.

Kodak Minicolor Prints are enlarged from either 35 mm. or Bantam size Kodachrome transparencies by a standardized process in the Kodak Laboratories in Rochester. They are made only from Kodachromes in 2 x 2-inch mounts with the standard central openings. Enlargements are available in two sizes. The "2X" size is about 2¼ x 3¼ inches. On these the corners are rounded and there are no margins. The larger size "5X" affords a print 5⅜ x 7-4/5 inches, and prints are returned in mounts—for horizontals 8⅜ x 10¼ inches and for verticals 8⅜ x 10-9/16 inches; the picture opening, or area, measuring 5 x 7½ inches.

The quality of the Minicolor print naturally depends on the quality of the Kodachrome transparency from which it is made. A good, properly exposed transparency which will project well, should yield a good color print. Kodak Minicolor Prints contain dyes which, in common with those used in printers' inks and artists' paints, and other similar materials may, in time, according to the Eastman Kodak Company, change. These prints, therefore, will not be replaced or otherwise warranted against any change in color. The dyes used in Kodak Minicolor Prints are stated by Eastman Kodak Company to be as stable as possible consistent with their other requirements. It is important that the prints should not be exposed for long to direct sunlight. When they are used for display they should be shielded from the direct rays of the sun.

The "feel" of a Kodak Minicolor Print, particularly in the smaller size, is that of an unusually fine playing card, strong, attractive, and resilient. The print support, or base, however, is not paper or card, but pigmented cellulose acetate.

It cannot be expected that Minicolor Prints will supplant the projected Kodachrome transparencies, but this new offering of Kodak bridges a gap that will be well traveled in the future because there are endless uses for these color prints.

The "2X," 2¼ x 3¼ inch Minicolor prints are seventy-five cents each, and the larger "5X, $3.50, including mounts.

Kodak Minicolor Prints will be available through dealers in September.

New Color Process Announced by Eastman

For decades photographers, scientists, and research men have sought a simplified, direct method of full-color photography.

With the introduction in 1935 of Kodachrome Film for amateur movies, there was one step forward in simplified color photography. This was followed in 1936 by Kodachrome for miniature cameras in 35 mm. and Bantam sizes, and in 1938 Kodachrome Professional Film ranging in size from 2¼ x 3¼ up to 11 x 14.

These materials popularized color reproduction, and the public became color conscious in all its forms. Only one thing was lacking—a simple and practical method of making color prints, but today that gap has been bridged.

With the introduction of a new color print process—Kotavachrome Professional Prints at the National Photographic Convention in Chicago—Kodak steps still further in the lead in photographic and color research and development.

Kotavachrome Professional Prints are reproduced from Kodachrome Professional Film Trans-

parencies and must be made by the Eastman Kodak Company Rochester Laboratories. Kotavachrome Professional Prints will appeal to advertisers, commercial and industrial concerns who seek the high quality full-color prints for engravings, displays, convention exhibits, etc. They lend themselves admirably to the story-telling, product-in-use type of presentations for sales portfolios, and architects, interior decorators, landscape gardeners will be able as never before to present full-color illustrations of their work.

Kotavachrome Professional Prints contain dyes which, in common with those used in printers' inks, artists' paints, and other similar materials, may, in time, according to the Eastman Kodak Company, change. These prints, therefore, will not be replaced or otherwise warranted against any change in color. The dyes used in Kotavachrome Professional Prints are stated by the Eastman Kodak Company to be as stable as possible consistent with their other requirements. It is important that the prints should not be exposed for long to direct sunlight. When they are used for display they should be shielded from the direct rays of the sun.

Kotavachrome Professional Prints can be made up to 30 x 40 inches, a size never before successfully obtained in full color prints.

For personal, or private use, Kotavachrome prints of landscapes, seascapes, and general views on walls or tables, will add much to the beauty of home interiors.

Kotavachrome prints will be made by Eastman by the Kodavachrome process in the sizes listed below. They will be made from all sizes of Kodachrome Professional Film Transparencies except 45 x 107 mm., 6 x 13 cm., and 11 x 14 inches. The maximum enlargement from any transparency is limited to six diameters. Transparencies may be cropped. If this is desired, it is only necessary to indicate clearly by an overlay accompanying the transparency.

Prices for Kotavachrome Professional Prints are:

Size	8x10	11x14	14x17	16x20
Price per print	$12.00	$17.50	$25.00	$33.00
*	6.00	9.50	14.00	18.50

Size	18x22	20x24	24x30	30x40
Price per print	$39.00	$45.00	$66.00	$90.00
*	22.50	27.00	40.00	60.00

*Additional prints from same transparencies when ordered at same time.

Kotavachrome Professional Prints will be available through dealers in September.

New B & J 4x5 Press Camera

Burke & James, Inc., are now placing on the market a new Press Camera in the popular 4x5-inch size.

The camera features a durable, double extension bellows with heavy self-aligning V groove focusing track. A large size removable lensboard permits instant interchange of lenses. The lens standard is fitted with adjustments for lateral side shift, extreme rise and fall as well as swing and tilt. In addition, the beds of the camera may be dropped, providing an extra valuable adjustment for unusual angle work.

The Camera back is fitted with an all around, folding type focusing hood. The ground glass focusing panel is a full 4x5 inches in size—permitting accurate examination of the image to the very corners of the plate. A unique system of ventilation eliminates the need for cutting the corners of the ground glass. The camera back is of the revolving type, permanenty attached to the camera body. It may be rotated from horizontal to vertical position instantly. A telescopic type view finder, mounted on the top of the camera, is fitted with a compensating adjustment for parallax.

The camera body and bed are of light weight aeroplane metal construction—leather covered—no wood parts being used. All standard press accessories such as range finder and flash equipment may be added—and as this equipment mounts directly to the metal body, it may be securely anchored in position. The tripod socket is of extra heavy design, centered in a large metal plate that is securely riveted to the camera body.

This nw B & J 4x5 Press Camera will sell for $49.50, less lens and press accessories. Full information and descriptive literature may be obtained from Burke & James, Inc., 223 W. Madison Street, Chicago, Illinois.

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"No Relation to Persons . . . "

The old saw about "this has no relation to persons living or dead" is definitely contradicted by the majority of character and business names in most films.

In many 20th Century-Fox films sets, signs carry the name "Weinberger Clothing Co." or "Weinberger Brewery." Assistant Director Henry Weinberger is the donor of the name in this case.

In another recent film, a very nasty character was named "Charley Hall." The owner of this name is an assistant director at the same studio.

The reason for this is that in any case where someone might offer a possible objection to the use of a name, a name for the purpose is "borrowed" from someone on the studio lot.

In one recent picture, the names on tombstones in a gangster section of a graveyard read practically as a roster of the studio's assistant directors. But they don't seem to mind.

TELEVISION

(Continued from page 17)

Don Lee Broadcasting System, is the operation of a number of television receivers in public places in Los Angeles, Hollywood and Santa Monca. These receivers are located in the lobbies, bars or grills of outstanding hotels and restaurants. A score of persons are usually found around each of these receivers during the telecasts. The locations in Los Angeles and Hollywood follow: Wilshire Brown Derby, 3377 Wilshire Blvd.; Kiefer's Pine Knot Drive-in, 8505 Santa Monica Blvd.; Vine Brown Derby, 1268 Vine St.; Griffith Planetarium, East Hall, Griffith Park; Hollywood Roosevelt Hotel. 7000 Hollywood Blvd.; Town House. 639 So. Commonwealth; William Penn Hotel. 2208 West 8th St.; and in Santa Monica at the Miramar Hotel.

Production Rush Starts at RKO

Under the new regime headed by Joseph I. Breen, vice-president in charge of production, RKO Radio will put more pictures before the cameras from August 1st to October 1st than ever have been started in any similar period in the studio's history.

Breen and his executive producers, Sol Lesser and J. R. McDonough, have lined up a program of ten pictures that will tax the Gower Street studio stage space to the utmost and carry over to the RKO Pathe lot and the RKO Ranch.

BOOKS

Reviewed by Ernest Bachrach

Phew! Five books this month and tough chewin'. But all for the shelf with one exception.

In their "How to do it" series The Studio Publications offers for $3.50 a 102-page book, "DESIGNING FOR MOTION PICTURES," by Edward Carrick.

An excellent piece of work, especially for the 8 and 16 mm amateur fans, also for those who wish a reference book on their shelves. The title is quite misleading, for anyone reading this book will have gleaned from its pages information concerning almost every phase of the business of making a successful and artistic picture.

Fortunately the author confesses in his acknowledgments that the compilation is largely due to aid given him by ranking technicians of the film world, carpenters, scenic artists, drape men, effects, decorators, art directors, cameramen, etc.

Briefly, the book instructs or imparts approach, plotting, materials, angles, short cuts and many other requisites in the making of a successful picture, short or otherwise. Well illustrated, approximately seventy, and loaded with recipes (long considered studio secrets), this volume may be considered a MUST for the shelf.

"THE AMATEUR PHOTOGRAPHER'S HANDBOOK," by A. Frederick Collins. Price $2.50. 392 pages. Thomas Y. Crowell Company, publishers.

To the beginner an encyclopedia, to the initiated a swell reference book. Checked the worth of this book by the quiz contest method with friends of mine in the profession. Not only was there an answer contained therein, but it was given with detail and simplicity.

Space is lacking to impart the contents, but will say that profusely diagrammed and illustrated, this book is well worth having, especially if you "haven't kept up." I know that the author has done considerable research in the field and his findings are based on the practice and experience of men best qualified to supply him with the information.

"THE ART OF RETOUCHING AND IMPROVING NEGATIVES AND PRINTS," 14th edition revised, by Johnson and Hammond, price $2.50, published by American Photographic Publishing Company.

A very fine book embracing practically every angle of an art (or craft) that is so little understood. Every usable method is explained in detail; in fact, so much so that I could sit right down now and do a first class job on the toughest!

Some of the contents that may interest the prospective purchaser deal with: Use of make-up; other applications and methods of retouching; use of the airbrush (much abused usually), and last, but not least, the book abounds with so-called "tricks."

A word of caution in conclusion: The author, having given the reader this knowledge, implies that the subject is one of intelligent approach rather than of downright hard work.

"KODACHROME," a data book on photography in color, published by the Eastman Kodak Company, price 25 cents. 52 pages.

A revised edition of their handbook, Eastman here has given us the answers to many of our difficulties with Kodachrome, or let us say to some extent color photography.

New film speeds, revised tables, prices and approach for the various types of this film. Don't remember the last booklet well, but it seems to me this one is more comprehensive in its entirety.

After careful reading I can safely say to anyone using or intending to use Kodachrome, get out your two-bits, buy the booklet and save yourself many dollars. Your color will be much better!

"CHEMISTRY FOR PHOTOGRAPHERS," by Allen R. Greenleaf. 172 pages, published by American Publishing Company, price $2.00.

Here is a book for one that is truly lazy. Almost every bit of information contained therein can be found in your film and sensitized paper packages. Photo periodicals, Eastman Kodak's "Elementary Chemistry for Photographers" take care of the rest.

The arm chair "photog" undoubtedly will say this book is necessary to our shelf; it deals with photochemistry. Then I will say—let us find a nobler work or—for the layman, a simpler one. There are too many books of this type, unpurchased, at your dealers. "Not for our shelf."

"SWEET SELLING"

(Continued from page 18)

state, so that consumers may easily identify them. An unusually fine musical background accompanied the picture. "Washington First In Apples" has received immediate response in all audiences who have seen it, Mr. Blackburn reports, and in addition the film is enjoying wide distribution in schools because its scenic and educational value is only slightly less than its ability to merchandise the Washington apple crop.

Mr. Blackburn next projected the petroleum research movie, "Oil For Aladdin's Lamp." This subject is one of the latest releases made for the Shell Oil Company, and is one of a series known as "Shell Progress In Pictures." For this production, 35 millimeter standard theatrical size negative was used from which black-and-white 16 millimeter reduction prints were made. Its length is 1200 feet. With script by Norman Blackburn and John Eugene Hasty, the production was directed by Joris Ivens, with Floyd Crosby at the camera. Harlow Wilcox does the commentary. An excellent, interpretative musical score heightens the effect of the picture.

Assuredly, "Oil For Aladdin's Lamp" was an ambitious undertaking in business film production for, while covering a difficult scientific subject, it had to be made so it would appeal to oil dealers and laymen alike. That the assignment was well done is evidenced by the completed picture. It's an intriguing film, told in easily understood sequences, of the scientific discoveries and experiments which are being made at the great $3,500,000 laboratory of the Shell Development Company, located at Emeryville, in northern California. The sizeable task of transferring to the screen the progress of science, and of scientific experiments affecting everyday life, was accomplished in only nine days of actual shooting, although advance work on the script required weeks of research.

Right before one's very eyes parade such a skillful array of startling experiments that you feel like looking around for the magic wand that produced them. You expected to witness technical abstractions a laymen wouldn't understand—but—instead, you see synthetic clothing and milady's jewelry produced from petroleum! Amazed you are by various forms of plastic materials that come from oil, and lucite plastic that causes a beam of light to bend around a corner! You see a laboratory "weather-maker" that reproduces the various climatic conditions of the universe, at the touch of a button! But you are sure you're "seeing things" when, with a fluid mixture, a laboratory scientist proceeds to "bounce" the contents on a table! . . . synthetic rubber has been made right then and there before you.

So engrossing is "Oil For Aladdin's Lamp," plans are under way to re-cut and re-edit it and give the revised edition a theatrical presentation in the nation's theatres. As a short subject, the film should prove good entertainment.

The business of producing advertising films is not entirely confined to real persons, sets and things. Mr. Blackburn told of the use of cartoon films . . . brief, lively, entertaining short shorts . . . which also are being made for advertising sponsors.

These "Minute Movies," as they are called, running only 80 seconds in screen time, are produced with an eye on the popularity of such famed screen cartoon characters as Porkie Pig and Donald Duck. National advertisers like Kraft's Malted Milk, Swift's Brookfield Butter and Kellogg's Rice Krispies use this new medium. The character of Goldie, the Shell Oil Company droplet, was created for a "Minute Movie" series, and Goldie's amazing adventures are depicted in animation in full-color Technicolor. The "Minute Movies" are seen in theatres throughout America.

Distribution of business films is assured by means of nation-wide distributing facilities, comparable to standard theatre booking routine. With most present day sales and advertising films being reproduced on the small, safety stock of 16 millimeter, and with the improved manufacture of 16 millimeter sound on film projectors which are readily set up in schools, recreation rooms and auditoriums, a business film sponsor has at his command a potent means for a sales campaign or for instruction. In widely separated territories, at ever increasing frequency, movie presentations are being made to dealers, clubs, societies and company conferences. As Norman Blackburn pointed out, a business film is seen and heard by two to five million persons a year!

Each Warner Theatre To Have Library of Screen

A Library of the Screen, with branches in its 500 theatres throughout the country, is to be established by Warner Bros. next fall, it was announced by J. L. Warner, vice president of the film company.

All the facilities and resources of the new nation-wide institution will be available to the public without charge.

Each library will be stocked with material of direct application to the screen. It will contain novels and historical works already produced and yet to be produced by Warners and other studios, as well as texts and histories dealing with Hollywood and the making of motion pictures.

The libraries also will feature volumes of still photographs from famous Hollywood productions, including rare stills of many films of early nickelodeon days. The albums of photographs will not be available for lending but interested fans will be able to examine the valuable collections at the libraries.

All branches of the Library of the Screen will make substantially the same material available to the public. In addition to works already filmed, the libraries will be augmented from time to time as literary works are purchased for transcription to the screen.

A Cameraman Turns to National defense work

By William V. Draper

In the July issue of the "International Photographer," Rella, in his column "They Say," casually remarks that Bill Draper in his spare time is supervising a machine shop on defense work. It should be added that in the time he does not have to spare, he sleeps, or tries to. Possibly a few remarks about this spare-time job might serve to make other cameramen more contented with their lot.

Somewhere between Hollywood and Los Angeles is an imaginary line, the crossing of which places one in an entirely different world. The people talk a different language. The struggle for existence is on a much more serious plane. Needless to say, it is somewhat of a shock to suddenly find oneself on the other side of the line. The transposition was semi-involuntary.

A gentleman who had at one time spent several years in developing what I called an invention of mine, brought to me a glowing account of the available business and a request that my partner and I buy for him a bankrupt machine shop. It looked like a possible place when I might call at intervals to pick up certain profits to augment my motion picture salary. Knowing absolutely nothing about that business I reasoned that I would be of no particular value to the shop and could carry on with my picture work. This might have been the procedure had not everything turned out to be exactly the opposite of what was expected.

To begin with, our plans called for a brief announcement to the effect that we were ready to accept work, after which we were to step back so as to not be trampled in the rush. We made the announcement but the rush failed to materialize. After a few weeks I decided to conduct a personal investigation to determine whether or not peace had been declared and the general public not informed. The great volume of work coming from the aircraft companies was nowhere to be seen. It appears that they were in a typical moving picture slump. Shops that had been contracted for in busier times were standing idle. This interval of time gave me an opportunity to analyze this new world that I was in.

Reluctantly I realized that many a move in the business world was motivated by greed. Honesty seemed only remotely expected. Conversations were pointless as no one believed what the other fellow said. It was just Europe on a small scale.

The next few weeks demonstrated that the Marquis of Queensbury rules, to protect yourself at all times, are not confined to a sporting world as in business it is assumed that you are "doing as you are being done." Strangely enough, after your business gets into motion, this condition seems to fade away as dealing with legitimate houses goes to the other extreme.

The weeks that were spent in wondering where, if ever, business was coming from parallels the struggle for a chance in Hollywood, but has this different twist at the end. What you have thought in your hours of desperation would be a solution to your problem becomes a bigger problem than the struggle to keep the doors open.

An influx of work immediately requires large purchases of material and the hiring of a large staff of men. Almost overnight the payroll jumped from nothing to over $1000 a week. And the excuse for not going back to pictures, which had been the necessity of getting things started, was supplemented by the necessity of digging up money for the payroll, which in turn was supplemented by the necessity of sticking around to see that you did not lose your shirt. What the next excuse will be is still a mystery, but I have no doubt it will be a better one than any of the preceding ones.

The outstanding difference between these two worlds is the tempo at which men work. Everyone expects and knows that he must work every minute. In the four months that I have operated the shop I don't suppose that the time the collective men have spent without a job to do would total one-half a day. As a matter of fact, if a toolmaker finds himself short of work, he will voluntarily lay himself off. It may be that loafing is done in larger institutions but it certainly isn't the practice in a small shop. The top pay for these men is less than that of an assistant cameraman. This will give you something of an idea of what they are called upon to do.

An airplane that may be sixty feet long would have its efficiency impaired if it did not conform to its design within limits of a relatively few thousanths of an inch over its entire length. For this reason all of its thousands of parts must be held almost perfect. Inasmuch as the parts themselves are a product of the tooling, the tolerance allowed is practically nil.

Once in the dim distant past I was very rude to an assistant director who asked me to expedite things by running out of the camera line with the slate. Now, since seeing how men work in other fields, I have decided that some day when I have some spare time in which I am not supervising national defense, I am going to look that assistant director up and humbly apologize.

They Say---

By RELLA

● San Rosen planning to name his Blessed Event "Retroactive" to commemorate payment to assistant cameramen of all money since 1938 under the wage and Hour Law.

● Private Francis J. Burgess now in the photographic section of the Air Corps Advanced Flying School at Stockton Field, California. Brother Burgess requests that all communications be addressed to Private Francis J. Burgess, United States Air Corps, 68th Air Base, 74th Material, Stockton, California. Burgess is doing considerable ground and aerial photography and is pleased with the results of his work.

● Jack Russell making predictions that he will become the father of a little girl.

● At Carson City, Nevada, on the Paramount Production, "Remarkable Andrew" are Theodor Sparkuhl, first cameraman; James Knott, second; Lathrop Worth, assistant; Guy Bennett, second; Charles Schoenbaum, first; Byron Seawright, assistant; Charles Russell, assistant; Al St. Hilaire, still cameraman.

● Chalmer Sinkey, Fox Movietone newsreeler in the Northwest, has returned from travels east of the mountains and high on the glaciers of Mt. Ranier. Despite all this traveling Newsreeler Sinkey is doing a fine job of stewardship in the Northwest region.

● Dan Fapp, first cameraman, shooting an Aldrich picture at Paramount Studio. It is his even temperament and considerate disposition, as well as his training and skill, that makes Dan so eligible for top honors in the camera field.

● This column does not like to resort to personalities, but it seems the job would be undone if something was not said about cameramen Leo Tover, John Mescal, Harry Stradling, Lee Garmes, Milt Krasner, Bob De Grasse, and Jack McKenzie (with apologies to many others whose names are not mentioned) for the genial and understanding way in which they conduct themselves with their crews, all of which makes work easier and more pleasant. Pressure in the motion picture business is of itself quite heavy—instructions from a superior who understands the problems of the subordinate, when given in a tactful manner, make life so much easier for those who respond through orders. Thus it is that speaking for the hundreds of workers a word of thanks is conveyed through this medium to those who do try to remember the difficulties of the other man.

● Compliments being received by International Photographer on the publication recently of an article on Infra-red Photography written by Ted Sparkuhl. It was the first true study of infra-red given in a simplified manner.

● Joe Valentine probably can tell many people how success in the picture business is an unpredictable event. Joe went along for a number of years struggling to get through the Maginot line in the picture business. Suddenly, like a meteor out of the sky, Joe was hailed here and there as being able to more than hold his own with the best of them.

● M. B. Paul was associated with Maurice Seymour Studios in Chicago, biggest theatrical photographers in the country. It was when he was with that company that Paul started first full picture service for radio networks.

● "Pigeon Bring Message," that snappy column in Republic Insider, is written by Ray Flinsky.

● Monte Steadman, who has been an assistant at Republic for many years, is taking his first vacation in about ten years.

● Bill Nobels has returned to Republic to the extent of shooting one picture a month. That's what a ranch in the valley will do.

● Ellis Thackery and Dave Smith back from Florida where they spent four weeks shooting under-water pictures for Republic. Chamber of Commerce of Southern California ought to give them "gold cards."

● Virgil Miller, contract ace cameraman, Twentieth Century-Fox, is a graduate of Kansas State University, holding the degree of Bachelor of Science and Electrical Engineer. He taught Electrical Engineering and Physics at Kansas State. Of unusual interest is that his son Joaquin holds Bachelor of Arts and Master of Arts, U.C.L.A. and U.S.C.; Loren, another son, is a graduate of Occidental College; Harlan is a student at U.C.L.A. and Wendell graduated from Cal Tech with highest honors ever awarded a student.

● Off to Fort Knox are Jack Smith, Lloyd Knechtel, Kyme Mead, Ray Ramsey, Mat Klucznik and Bert Eason.

● England's censors relaxed their strictness recently to permit details to reach Hollywood about the death of two cameramen who were filming footage over the British Isles for "A Yank In the R.A.F.", which Darryl F. Zanuck is producing for 20th Century-Fox.

The studio's London executives advised that Cameraman Otto Kanturek and his assistant, Jack Perry, went up in a commercial plane with several English Spitfires over the Bristol region.

Kanturek, who photographed "Night Train" and "The Girl In the News" for 20th Century-Fox, had asked studio heads to allow him to get actual shots of dogfights over England.

London advised that the Spitfires ran into a covey of German fighters. One Spitfire brought down a Jerry while Kanturek filmed the scene. A German made a hit on a Spitfire, but the pilot bailed to safety. Another German fighter bore down on the tail of Kanturek's plane, which was unarmed, and riddled it with machine gun fire. The ship crashed to earth, killing Kanturek, Perry and the pilot.

When Kanturek was in Hollywood, he conferred at length with Director Henry King, who is directing "A Yank In the R.A.F.", which is a Tyrone Power-Betty Grable picture.

Binghamton Technical Section of Photographic Society Organized

A Binghamton Technical Section of the Photographic Society of America has been organized in Binghamton, New York. At the organization meeting held on May 28, and attended by 53 members, the following officers were elected:

Chairman, Lloyd E. Varden; Vice-Chairman, Fred Jayne; Secretary-Treasurer, Walter Lester; Members-at-Large, Ira Current, Frank Fiaschette.

Mr. Fred Quellmalz and Mr. Don Loving of the National Organization officially welcomed the new members and outlined the limitless possibilities of such a group.

The Binghamton group is composed mainly of technicians and enginers in the photographic industry; although others are expected to increase the scope and strength of the organization.

RKO Establishes Junior Writing Dept.

Starting immediately, RKO Radio Pictures will launch a search for "junior" writing talent to augment the studio scenario staff. The talent will be gleaned from universities, newspapers and from the ranks of young writers just breaking successfully into the magazine field.

In charge of formulating and putting the plan into operation will be Collier Young, head of RKO Radio's Hollywood studio story department.

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Vol. XIII **October, 1941** **No. 9**

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Walter Pidgeon and Roddy McDowall in scene from "How Green Was My Valley," produced by Darryl F. Zanuck, 20th Century Fox.

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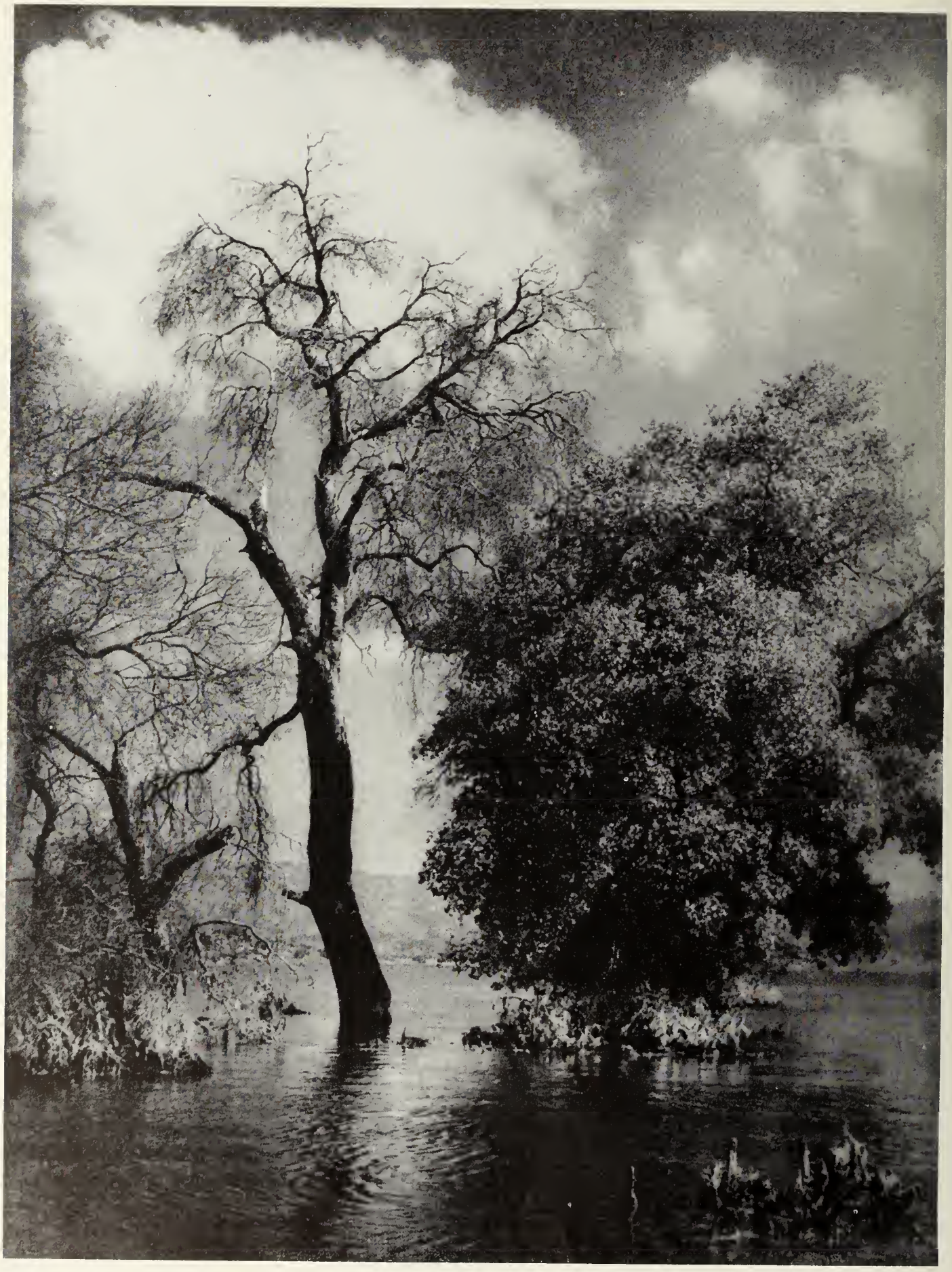
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Henshaw Lake—1941 **William Mortensen**

Negative 2¼ by 3¼, super pan press. Bromoil Transfer printed on hand made Barcelona Laid paper. Inked with electric brush.

SOUTH ON A TUNA clipper

By Michael Doyle, Jr.

On our way out of San Diego Harbor, our ship was first stopped and boarded by a patrol boat from the cruiser "Louisville," the officer of which examined our papers and allowed us to proceed: then, almost being landed on by a Navy patrol bomber practising night landings in the harbor channel, we started south to the fishing banks off the southern coast of Lower California—four days' voyage.

I had been commissioned by the studio to get scenes of tuna fishing in actual surroundings and after chasing around San Diego for a week, looking at a dozen boats, I received permission from Captain Luigi Guidi to make the trip on his boat, the "Kathryn," a diesel bait fisher of sixty-five feet; carrying a crew of eight.

After waiting more or less patiently for a week for the Captain to decide to sail, he set the time for the next Sunday night. Saturday morning, at eleven, he called me at the hotel and told me that we would need passports to go down into Mexican waters and small photographs to go on the passports. We dashed out to the galleries. Every soldier at Camp Callan, every sailor at the naval base and every marine must have decided to have his picture taken that day. Several hours later, we had the undeveloped negatives wrapped in a package. Then began the hunt for a place to have them developed and printed. More hours passed. About to give up, we came to a man doing a gallery business over a drug store. He turned us down because he was too busy. Then someone mentioned movies. "Are you in the movies?" We answered "Yes." "Well," he said, "I used to work at Paramount, twenty years ago. Wait a minute, maybe I can squeeze your work in. Come back in half an hour."

The Mexican Consulate was closed by then so our sailing date was postponed to Monday. That was fine but that Monday was a Mexican legal holiday, so the Consulate wouldn't be open till Tuesday. So, keeping our fingers crossed, we were to sail Tuesday night. We must have uncrossed them for a moment, because at 1:00 P.M. it was discovered we didn't have permission of our local draft boards to leave the United States.

Telegrams, long distance phone calls, biting of nails, and at 5:00 P.M. came the word. We had permission to leave for four weeks.

So it was somewhat worn and a little limp when we realized we had passed Point Loma and Coronado and the boat began to roll.

Sitting in the galley, it sounded as though the deck were awash; looking out, I was astonished to see that it actually was. The Captain informed me that it always was awash at sea from amidships aft and in heavy weather the stern wasn't visible. The boat acted like a cross between a submarine and a destroyer.

Three days south, we put into Blanca Bay to seine for anchovies and sardines that were to be used as bait on the banks. We photographed this from every conceivable angle, from the top of the wooden awning over the bait tanks, down among the fishermen hauling up the net. And the Captain even put us over the side in a dory. That was a jolly little job, trying to keep the people in the finder, as the dory bobbed up and down with the swells.

The boat cruised back and forth, the net piled in the stern, one end tied to the dory, ready to let go. The man in the crow's nest saw a disturbance on the water, the boat headed for it, the Captain yelled to the man in the boat who let go, the net payed out over the stern as the boat encircled the school; when the dory end of the net was handed up and rushed aft where all the men hauled it, hand over hand. When the sack of the net was close in board, an endless chain was organized, the bait was scooped from the net, passed to the deck to the bait tanks where it was emptied out, then down the other side to a waiting hand who gave it to the scooper at the net.

With the bait tanks nearly full, we started south again. The old man cautioned one of the men to be sure the bait tank lights were on. That was a new one to me. He explained that the lights were kept on constantly, one inside the tank under water and one overhead. That otherwise the bait, swimming constantly in circles, would go crazy in the dark and commit suicide by dashing into the walls of the tank, or piling up and smothering.

We reached the banks a day and a half later. Carl Gibson, the grip, had designed and put together an outrigger that would extend five feet over the rail of the boat. In between swells, Carl managed to lash the outrigger to the side and on this we put the Bell and Howell, uncovering only the lens and matte box long enough to shoot a scene. At that, the camera had to be completely dismantled after each shot and carried into the galley to be dried off before it could be unloaded.

Every morning at 4:30, the crew was up





Upper: Doyle and the swordfish he didn't catch. Lower: Port side astern. Racks lashed up during heavy weather.







Top: Camera on outrigger. Center: The ship "Kathryn" on the way to the banks, with bait net drying. Lower: Carl Gibson (left) and Carlo, the cook (right).

and took turns on lookout. The boat cruised back and forth across the banks, ninety to two-hundred miles from the mainland; sometimes as many as twenty boats would be together, other times no other boat but ours showed on the ocean. When the lookout cried "Tuna!" every man rushed to his station: the racks, slatted steel platforms, with shin-high pipe guards in front, were lowered into position outside the rail; fishing poles grabbed and tested, then over the side into the racks. The men played the squid back and forth. The squid, jerked through the water, appears to the tuna to be a sardine or anchovy.

The squid, so called because of the squid-skin covering, is a strange assortment of articles: a lead loaded brass tube, to which is attached a plain steel hook, bent at a forty-five degree angle. The whole thing is covered with white chicken feathers and over this is wrapped the squid-skin, sheep parchment or cat skin. The fishermen highly prize the cat-skin, which is imported from Japan, where they have stock farms that raise nothing but cats for the skin and gut. Imagine a cat ranch—silly, isn't it?

Well, the chummer, the man at the bait tank, throws handfuls of sardines over the side to entice the tuna closer to the waiting men in the racks. The men stand tense, dipping the poles up and down in the water; suddenly, one man has a strike, then another and another, till all the men have strikes and the air is full of flying fish, the deck starting to fill with a great flapping and shower of spray; the men shouting encouragement to each other and to themselves, like a bunch of baseball players. After awhile the fishing seems to slack off, and the Captain, who is the chummer, orders the men to get the hook poles. On these hooks, plain steel, with no barbs, attached to the poles the same as the squid with an eight-foot piano wire leader and a swivel, the men hook the chum, or bait. After days of swimming around in circles close to the surface of tanks, the sardines even though hooked on the end of the line, still swim in the circle, though close to the surface. The men again wait for the strike. Some Icthyologist (Fish student, to you) figured that the tuna strikes at a speed of fifty-five miles an hour. The fishermen are so practised, that they utilize this speed to land it, flipping the pole while the fish is in mid-air, overhead, releasing the fish to continue its trip to the deck alone. I tried this one time. Result: a wet director and a pole disappearing astern, zig-zagging like a snake.

The men work so fast that by the time the fish is on the deck, they have the hook baited and are swinging the pole overside. There is a constant shout of "Bait . . . Bait . . ." from the men in the racks.

The chummer hands small nets full of sardines down to each of the men who dump them into little receptacles built into the rail and fed with a trickle of water pumped in through pipes from the salt

water pump. The nets are thrown back on the bank top and the men bait the hooks and fish again.

The first eight days on the banks were overcast, but hot or cold, we shot the scenes, hoping that when and if it cleared up we could reshoot. The men said that when it did clear, it would be windy and that meant rough seas. It cleared up the day of the full moon which brought more wind. Huge combers came over the bow and rails, but that didn't keep the men from fishing. They caught seventeen tons, working sometimes shoulder high in the swells. That day, we had to shoot from the bridge deck, camera lashed and tied down, and used the hand camera, wrapping myself around a stanchion to keep from going overboard.

The fish kept coming aboard, huge one- and two-polers, some of them weighing as much as a hundred and fifty pounds. No wonder these men looked like the "after" part of a physical culture ad. Ten-twelve-fourteen hours at a stretch, constantly pulling in huge tuna, almost as big as they are, poles bent almost double, every muscle straining, a foot braced against the rack then the water broken by a whopper, not high in the air this time, but pulled in over his chest, lying almost on his back. Even then, he gives the hook a flick and it slithers in among the rest of the fish on deck, free. To vary the monotony, they sometimes swing in the smaller fish (thirty pounders), grasp them against their ribs, release the hook, and throw it in board by the gills.

We had been going hard at it all day. I noticed an increasing list. The racks are on the port side and the stern, so fish pile up on one side. A big swell came by and almost washed a couple of men overboard. They saved themselves by dropping their poles and grabbing the rail. They shouted to the old man to release the water in the forward bait tank to compensate for the added weight of the fish. In the excitement he had forgotten to. He yelled at me: "Mike, you open the valve!" "Where is it?" said I. "Down in the corner!——" The corner was five feet deep in fish.

Carl and I threw fish to the starboard side till I thought they had grown legs and walked back to haunt us. There the valve was—nine inches from the deck. I gave it a twirl, and as the twenty tons of water left the tank, the boat rose. Have I mentioned that on these boats, *everyone* works? At intervals, I'd see Pete, the engineer, leave the racks and go below to squirt some oil on the engine or ice machine, then Carlo, the cook, would lay off fishing long enough to go into the galley and throw something together. Then, munching a Dagwood sandwich, climb back into the racks.

Carlo was an individualist. You liked what he cooked, or else. Fortunately, he was an excellent one, and took a great deal of pride in it. He had just returned from his honeymoon and there was a lot of horseplay. He'd drop a skillet or half-pared potato to chase someone around the deck. One day, sitting on the hatch in deep thought playing mumble-peg with a huge bread knife, one of the other boys came by and cautioned him that the knife might slip and go overboard. Carlo looked at the fellow, looked at the knife, then heaved it over-side into the ocean.

When he ran out of bait, we would head for Magdalena Bay, eleven hours sailing. While on the way in, the fish had to be iced, this after a twelve-hour day in the racks fishing. The men would change into dry clothes, then go below to chop the ice, and begin stacking the day's catch. Every fish had to be placed belly down, head to tail, then when a layer was completed, covered with six inches of crushed ice. Four or five hours of this and the boys would come out all blue around the edges.

At whatever hour the boat arrived in the bay, the search for bait would begin, all lights doused, cruising at half speed, back and forth. Suddenly, a huge phosphorescence would bloom on the surface, sardines chasing anchovies, mackerel chasing sardines and sharks chasing the mackerel—a vicious circle—us, chasing the whole works.

The net would go out over the stern, the circling back to the dory, then the haul in, all done in the dark. Luminous blobs falling from the net and the hands of the men. Then, the sack in, the flood lights turned on and one could see the catch, churning, and not just bait, but skates, small poisonous water snakes, sharks, and small squid, the last a delicacy which the men enjoyed —by immediately flicking the heads off and swallowing them. The surplus after the net is cleaned, is thrown into a bucket and later French-fried. I at last found something I couldn't eat. I looked down at those squid on the galley table and they looked back at me.

Bait tanks full again, we started out past Man-O-War Cove, past Sail Rock and headed southeast. The men climbed into their bunks. Another twenty-two hour day.

For three days, we were lost, knowing only that we were off the Mexican coast. The fathometer, as we cruised back and forth, showed bottom only at 1800 to 2000 fathoms. The banks have a depth of from 65 to 150 fathoms and are the peaks of undersea mountains. The morning of the third day, up as usual at five, trying to figure out some closeups or inserts. I got bored and went into the pilot house to talk to the man at the wheel. Sitting on the piled gear, I took a photometer out of my pocket to make myself more comfortable, and put it next to the compass and waited hopefully for the boat to find the bank. Back and forth, up and down, for hours on the lookout for signs of tuna, or at least, signs of the rest of the fleet. The monotony unbroken: looks in everyone's eyes that you see on a set when poor actors are delivering poor lines. The old man would go to the chart rack, pull out a chart, measure it with the parallel ruler and a piece of scratched piano wire. All sailing was by dead reckoning. The Captain would put away the chart, look out the window, go up on the bridge, mutter to himself, talk to the helmsman and wave his arms and point overside. All in Italian.

This went on all morning, and part of the afternoon.

Around three, the Captain called to me. I went over to the pilot house door. The old man pointed at the compass, then picked up my photometer. The compass card promptly swung over forty-five degrees. The meter had acted like a magnet.

The Captain had been going nuts. The Northwest wind had been coming from the west. The sun was setting in the southwest instead of the west. On a hunch, the fathometer was started. As it warmed up with the needle circling the face, it started to repeat the buzz of the returning echo: "90—90—90". We were directly over the bank.

By steering a wrong course, we had located it after three days trying. An hour later, we saw tuna and fished until dark. Not taking chance on losing the bank again, we anchored all night. The next day, the sea was covered with schools of fish. We had just completed a background shot and had reloaded and were about to cover the camera, when one of the men hooked a swordfish. What a fight! No letting it run as we would with a reel. . . . The length of leader was the limit of play. It was either hold on or let the pole go. The huge fish would leap out of the water, then dive, almost pulling the fisherman overboard. The other men in the racks stopped fishing to help. One would help hold onto the pole—another would grab a belt as the was about to be pulled over.

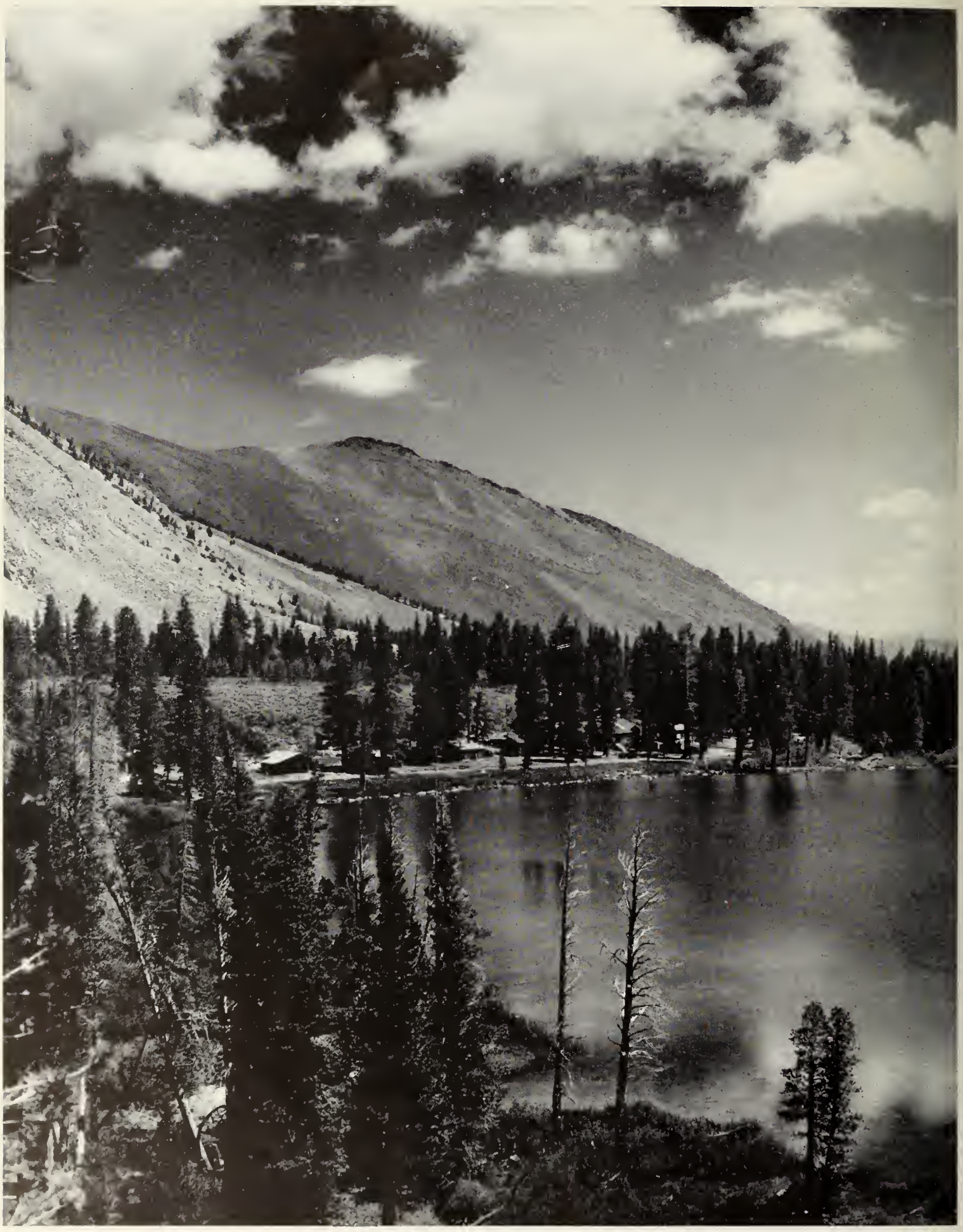
Finally the monster, seeing it wasn't going to get away, charged at the racks. The men leaped back over the rail, the swordfisher having presence of mind to hold onto the pole. A fellow ran forward, got a shotgun and returning, took a bead on the fish. The fish, half into the racks, was lashing side to side with its sword. When it stopped for a second, the fellow shot it behind the eye. It shivered all over, then was hauled aboard.

All this time, the camera was grinding away and we got what is probably the only closeup shots of a swordfish attacking men in the fishing racks.

Not to be satisfied, about ten minutes later another swordfish was hooked. That one fought for almost a minute and a half, but this time, the man with the gun, trying to shoot it, neatly severad the leader with the charge. And away it went. These shots, and all the others, appear in the current Wallace Beery picture, "Barnacle Bill."

That evening, after icing the fish, we started homeward with a capacity load.

Four days into the wind and heavy seas. Past Cape San Lazaro, on past Point San Eugenio and Cedros Islands, across Sebastian, Viscaino Bay. And finally, at dawn, into the harbor of San Diego.



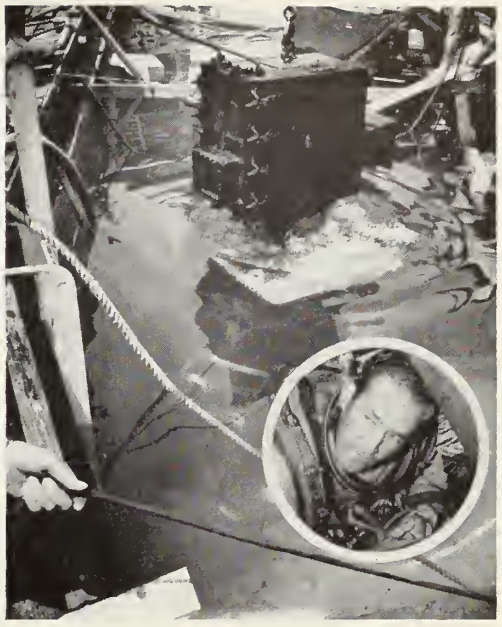
Virginia Lake, California

By St. Hilaire

"Reap the Wild Wind," Cecil B. De Mille Technicolor Production







At the left is "under-water propertyman," Pat Delaney, getting set for business under two fathoms of water; (center) spotted at the bottom of this steel cylinder which is sunk into the water is the "dry" camera manned by Dewey Wrigley and his crew. The camera shoots through a glass plate at the bottom of the cylinder. At right the under-water Technicolor camera and Cinematographer Curly Linden prepare to descend to the bottom of a twenty-foot tank holding nearly 1,000,000 gallons of water. Lower: An actual scene from "Reap the Wild Wind."



Stills by G. E. Richardson

THEY MUST BE SHARP

By James N. Doolittle

While I am not willing to admit that *every* time I open my mouth somebody puts his foot in it, I will allow that I have overlooked many splendid opportunities of keeping quiet.

So it happened that, offering a few innocent words in review of a recent photographic salon, I made certain cracks about "Sharp Photography." Little escaping the searching eyes of our editors, I now find myself asked to defend the point and go into a little further detail.

Lest the circumstances put me in a position of making loosely-guarded statements, I might as well go all the way, even at the risk of sponsoring a revolutionary movement, and alibi myself as best I may.

A sieve-like memory retains but a fragmentary recollection of the passages referred to but the substance was, "A picture is not necessarily good because it is sharp."

I might have been more expansive and claimed, "A picture is no good *unless* it is sharp." Having neglected the chance of a lifetime, I hereby depose and so state!

We needn't go too far back in the history of photography to recall the days when, after years of struggle, science was able to produce objectives capable of ren-



Compare the two portraits. The upper was produced in London Salon of Pictorial Photography in 1915, while the lower is a recent portrait of Dorothy Comingore.



dering fairly critical detail. Hand in hand, came sensitized materials equal to the recording of acceptably accurate tones and gradations.

Then something slipped and photography became "art" even to some of the soberest minds. Now, when such a mind tags the craft with the name of "art," anything can happen and it did in every conceivable form with a few incomprehensible ramifications.

Of course the transition didn't happen over night. It was sort of eased over on us. We used to hear of certain personal-optical deficiencies which ignored unimportant details in a scene. Nature was all messed up with things that had no right to be there and it cramped the style of him who yearned for simplicity.

Thus the soft-focus lens was evolved. Obliteration of detail was utter and complete. No longer was the all-seeing eye assaulted with things which the mind alone could ignore.

Anyway we got art! Then, to make the photographic image thoroughly obscure, we developed startlingly efficient processes in which only the phenomenon of light action reminded us that the camera played any part at all in the whole works.

Two welcome influences, however, have brought us out of the fog—the acceptance of photography in advertising and the miniature camera. An advertising agency, when paying rather important money for art (and here's where I'm willing to reconcile the use of the term) has claimed the right to know what it's buying. Space rates in important periodicals deny any profit in publishing guessing games.

Then the minicam.

Lay out several hundred smackers, plus tax, for a bit of photographic jewelry that'll make a picture only the size of an air-mail stamp and your curiosity, plus your instincts of economy, will demand something that resembles a photograph in the raw. Take the word "raw" any way you please but don't miss the main implication.

"A picture is not necessarily good because it is sharp." This observation is based solely upon the current acceptance of pictures of "just things." I register no thrill over shots of arid wastelands—especially if they purport to interpret the California scene—nor do my tastes in architecture run to non-functional shelters for al fresco "plumbing." Left, however, is my insistence that if such material must be photographed, f:128 and slick, shiny paper is the way to interpret whatever "asthetic" impulses may have motivated the exposure.

In portraiture, while somewhat of a truant from the school of the purist, and not insisting that character oozes from my every pore, I like that hard pinpoint of light in the eyes. With no desire to prove that the hairs of the head are numbered, I'd like to be able to count them if I had the urge. I can delete a mole with perfect impunity but I'd not touch an old wrinkle provided it were the insignia of mirth and laughter.

Naturally the pendulum of progress is a jittery indicator which will never assume the position of perpendicular status. Tastes and vogues change as they should, but if the arc of oscillat'on is not too great, it will be perfectly all right with me.

To paraphrase what used to be said of the French, "I need not subscribe to all they do but I certainly endorse the way they do it."



This won the Silver Medal at the San Francisco Exhibit of Pictorial Photography in 1915.



Hudson Bomber, photographed at Lockheed Plant. Courtesy Colliers Magazine.



Francis Neil, RKO Starlet

By Ernest Bachrach













Ben Glazer Production starring Elizabeth Bergner and Randy Scott. These are all night shots and with the smoke from the bombs and fires in the background it was a little difficult to stop the action. Photographed with 4 by 5 Graflex.









Lower left by Alex Kahle; the others by Ernest Bachrach. On opposite page top picture is by Bachrach and the other two by Kahle.

THEY'RE BACK

Victor McLaglen and Edmund Lowe, the famous movie marines of the "Leatherneck" characterizations, mustered out fifteen years ago, have enlisted again in RKO Radio's new film "Call Out the Marines" now before the cameras.

They are cast as Curtis and McGinnis, Marine Corps sergeants who retired to civil life but now, meeting accidentally, decide to re-enlist. So ship-over they do, as it's called by the Marines, and at once step back into their famous characterizations of pals who stick together against the other fellows but cut one another's throats where women are concerned.

These are the characterizations which won them screen immortality in days after the first World War, first in "What Price Glory?" and then successively in "The Cockeyed World," "Women of All Nations" and "Hot Peppers." Then the world moved on to other interests than war reminiscences, so they hung up their uniforms, dissolved their team, went separate ways.

But this is a new war. So they are back again, with RKO Radio and Producer Howard Benedict scoring the scoop. How big a scoop it is can be told by the way newshawks on the Hollywood front beat a path to the sound stage door. To both McLaglen and Lowe, re-enlistment in the movie marines is a great event. Both have been doing all right for themselves in the movies since they put away their uniforms. Lowe has been playing leads, McLaglen won the Academy Award for his role in "The Informer." But there always has been a soft spot in each man's heart for the characterizations which crashed fame.

No wonder. Up to that day, McLaglen had been just another movie actor, and Lowe had been playing "pretty boy" parts. Thereafter, though, McLaglen went on to win his Oscar, and Lowe to be retyped in virile, he-man roles.

"Let's give it everything, Vic," said dapper Eddie Lowe months ago when he and the giant McLaglen signed their RKO Radio contract, and the man mountain heartily agreed.

Not only agreed, but went into training. He took off twenty-five pounds in the next three months. When the camera rolled on that opening shot, six-foot-three McLaglen was down to a shade under 200 pounds, a bull-chested giant the Marines would be proud to enroll.

He has nothing, though, in that respect, on the suave and handsome Eddie Lowe, who keeps in condition with outdoor activities.

When the pair of them lined up in uniform just before the start of production to be given the o. o. by Capt. Thomas M. Ryan, U. S. M. C., on detached duty to act as technical adviser, he grinned admiringly, and said:

(Continued on page 19)















Cast: Walter Pidgeon, Maureen O'Hara, Anna Lee, Donald Crisp, Roddy McDowall, Sara Allgood, Barry Fitzgerald, Patric Knowles, Evan S. Evans, James Monks, Arthur Shields, John Loder, Rhys Williams, Richard Fraser. Directed by John Ford.

Huw Morgan, now sixty years old, tells the story. The men of the little Welsh town worked in the coal mines where they were well paid and happy. Through the influx of cheap labor, troubles ensue and finally the vil-













lagers are plunged into gloom and want. The important role of the new minister, Mr. Gruffydd is played by Walter Pidgeon. Through his efforts the strike is settled, but wages are lowered and all of the men are not taken back. There is a great cave-in and Mr. Morgan (Donald Crisp) dies.

Huw finishes his story of the death and departure of his loved ones from the valley that once was so green.

"How Green Was My Valley"

Putting Wales on the map of California for one of the biggest movie sets in many a year rivals anything that Aladdin could have done by rubbing his famous lamp.

The amount of materials and money which 20th Century-Fox put into building the entire village and coal mine for Darryl F. Zanuck's production of "How Green Was My Valley" may sound somewhat staggering, but a view of the finished product pales figures into insignificance.

When Zanuck first commissioned Art Director Richard Day to bring into being the mining village of the Morgan family in the Richard Llewellyn best seller, he first spent many days looking at movie film and thousands of photographs of typical Welsh villages.

Then he selected those of the villages of Cerrig Ceinnen and the adjoining Clyddach-cum-Tave in the Rhodda Valley in Wales and started to draw sketches and plans of a composite of these two. Then, in collaboration with Ben Wurtzel, head of the studio construction department, actual work began.

First of all, five caterpillar tractors and five carryalls put in four weeks of excavation work on the site selected at Brent's Crags in San Fernando Valley, 35 miles from the studio. This spot, with its rolling hills and stretches of valley duplicated in topography, if not in climate, the Rhodda Valley of Wales.

The set was to be spread out over an area of 85 acres, including six hills of varying sizes. But in order to shape this natural scenery to picture requirements, hundreds of thousands of tons of earth had to be excavated.

After the preparatory four weeks of excavation was finished, the actual building of the set took six weeks, in other words, 36 days of 10 hours per day with 150 workmen on the job.

A continuous line of trucks hauled to the location the various materials which went into getting everything ready, including: 300,000 feet of lumber, 20,000 gallons of paint, 300 tons of plaster, 2,000 tons of coal, 10 railroad freight cars of stone, 5,000 panes of glass, 2,000 feet of mine track, 50 coal trams. There was a full railroad car shipment of roofing slate as well as tons of nails, plants and trees of every description.

One of the first things that had to be constructed on top of one of the highest hills was a reservoir that would hold 200,000 gallons of water for various uses.

Besides the need of water in construction work, the streets of the village had to be wetted down during hot and dusty weather and there had to be a large source of supply for use in rain scenes. Being far from any town, the studio had to figure out its own water problem.

Construction of the set was commenced last fall when it was expected at that time that production would start in November. When the picture was put off until this summer, the studio spent $15,000 to put in a complete drainage system to take care of the heavy winter rains.

Some 80 buildings altogether comprised this Welsh mining town. These included the homes of the miners, the colliery buildings, stores, tavern, church and other communal buildings.

To beautify and dress up the little gardens of the homes and other spots in the village, $10,000 worth of trees, plants, flowers and shrubs were carted out and transplanted on the location.

The oddest job of all was the way the problem was solved of making the mountainous slag heap which threatens the village and plays an important part in the story. It was this job which accounts for the enormous item of 20,000 gallons of paint.

An immense hill had to be denuded of vegetation and the entire area of the hill sprayed with black paint to make it look like that much slag. Over this painted earth and rocks, several tons of coal was scattered to add to its realistic appearance.

The coal mine itself required the most careful work of all. Not only was it to look accurate, but everything about it was to be workable and practical. Down the 30-foot shaft which had been dug, there had to be a lift to lower and raise the miners, built according to all mine safety specifications because it actually had to raise and lower people.

The 2,000 feet of track emerged from tunnels, and on this track ran the fifty steel trams which the studio's own metal working shop had constructed out of iron and steel, copied from the trams used in Welsh mines.

Everything about the mine worked. In full operation it gave forth an industrious uproar. The trams clattered over the rails. Winches and hoists groaned, creaked and rattled. Steam vents hissed and sputtered, and the whole mine gave forth from 500 to 1,000 tons of coal a day. Then there was the added work of putting the coal back into the mine at night so that it could be taken out again the next day in further scenes.

Lording over all this Welsh territory was the Irish-American director, John Ford whose business it was to combine this background and several hundred people into the finished production of "How Green Was My Valley."

At Ford's insistence, there was more to the backs of the sets than the usual timbers which prop up the false fronts. Every building had a one-room interior. Instead of the usual canvas dressing rooms which would have been like sweat boxes for the actors, the cottages themselves were used.

Walter Pidgeon was housed for the duration of the picture in the house which he was supposed to occupy in his role as the Rev. Gruffydd. Maureen O'Hara, Anna Lee, Roddy McDowall, John Leder, Sara Allgood and all the other members of the cast, as well as the extras, were quartered in the cottages and other buildings whose one-room interiors were furnished as restful dressing rooms.

Accomplishment of this miracle in creating an entire village and colliery in less than two months time cost the studio about $145,000, figured on the basis of $120,000 for general construction, $15,000 for the drainage system, and $10,000 for the landscaping.

It sounds like a lot of money for one set for one motion picture, but one look at the village is enough to convince that the studio got its money's worth.

Added to this, of course, will be the $25,000 the studio will have to spend to tear all of this handiwork down, cart it all away and make things look as though the Rhodda Valley of Wales had never come to the San Fernando Valley of California.

But that is another story altogether, involving another type of movie ingenuity.

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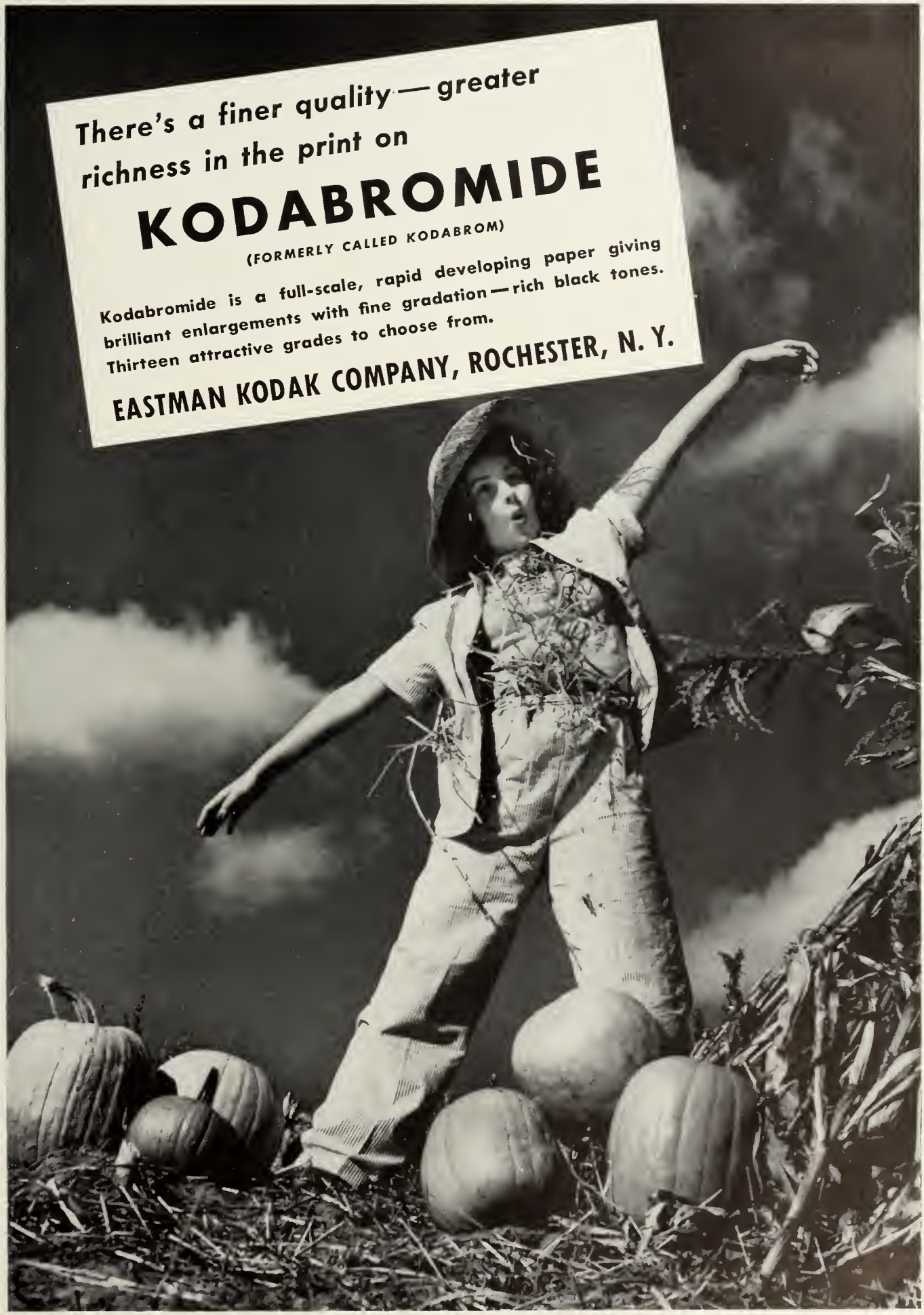
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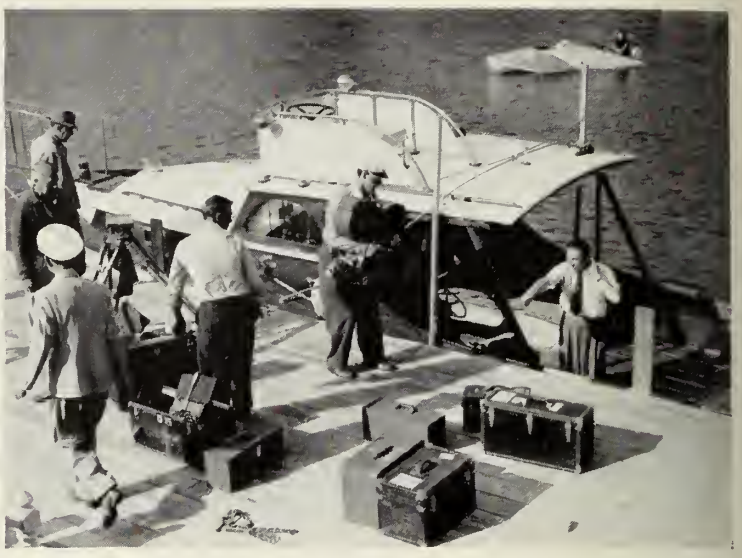
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Top left: Registering definition test on MGM production, "Yearling." Left to right are grip from Florida; Rube Boyce behind camera; very capable Bill Crossen, assistant cameraman, Chicago Local. Top right: Preparing to make aquaplane shot for Twentieth Century-Fox Production, "Moon Over Miami"; Nelson Cordes carrying Technicolor camera, and Rube Boyce in the boat. Lower left: Another location on "Yearling"—an island in St. Johns River near the famous Astar landing. At the left is seated Director Dick Rossen, next is Ray Ramsey, Rube Boyce, and hiding behind the palm is Charlie Boyle. Lower right: Fred Detmers bringing camera ashore from set-up in Sweet Water Creek in the Ocala National Forest, near Ocala, Florida, on MGM "Yearling" location.

visual education in india

A scheme of visual education, unique in India in its scope, was inaugurated recently by the Government of Bombay. Under it, motion pictures will be shown regularly in even the smallest villages in the Province, 100 16-mm. projectors having recently been purchased for the purpose. These projectors, which work from batteries, thus dispensing with the need for electricity, will be taken from village to village on a circuit system, similar to that used for the circulation of commercial films.

The scheme was formally inaugurated by His Excellency the Governor at the village of Turumbha, about 10 miles from Thana, on January 21. Simultaneously projectors were put into operation in the Ahmedabad, Ahmednagar, East Khandesh and Belgaum districts.

From these five starting points, the circuits will gradually extend until they cover the whole Province, reaching thousands of villagers who until now have never seen a film.

Films will deal chiefly with rural subjects, such as agriculture, cattle, sheep and poultry farming, health, sanitation, and with the war and other subjects of interest. A complete new program will be provided every two weeks, so that, when the scheme is in full operation, villagers will be very little behind the townsmen in seeing pictures of the latest developments in world affairs.

The films are silent, but a commentary in the best-known local language will be delivered as each is screened. No additional staff is being engaged for this purpose or for the operation of the projectors; the work being done entirely by Government officials and voluntary helpers.

In the inauguration of the scheme, the Government is working in close collaboration with the Film Advisory Board of the Government of India. Some of the films controlled by the Board are being reduced from the standard 35-mm. size to 16-mm. size in a private laboratory recently established in Bombay. Other films are being made by the Government in consultation with producers. — *U. S. Department of Commerce.*



On location "Moon Over Miami," Twentieth Century-Fox production, where the crew had the good fortune to work in the beautiful Florida Cypress Gardens at Winter Haven. Standing are Eddie Snyder and Rube Boyce, and seated, starting left, are Dick Pope, owner of Cypress Gardens, and as famous for his hospitality as the gardens are for beauty; Paul Burress, Chicago Local; Otto Brower, director; and Allen Davey. Lovely young ladies, like the two shown in the picture, stroll through the gardens and are glad to assist visiting camera fans as to locations, poses, lighting and costume. It is said that these girls in their colorful costumes are the most photographed in the world, being subjects for many cameras every day.

they're back

(Continued from page 13)

"Magnificent soldiers."

Binnie Barnes, Corinnna Mura, Dorothy Lovett, Marion Martin, other beauties who help to make life complicated for the throat-cutting pals of "Call Out the Marines," must have the same idea. They're always hanging around one or the other on the sets.

"In fact," said Binnie Barnes, "I guess a girl just naturally loves a uniform when it's well filled out."

"Sez you," chorused McLaglen and Lowe, listening in.

"Sez we," chorused the ladies.

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S. M. P. E. CONVENTION

Abstracts of Paper for the Fiftieth Semi-Annual Convention, Hotel Pennsylvania, New York, N. Y., October 20-23, 1941.

The Papers Committee submits for the consideration of the membership the following abstracts of papers to be presented at the Fall Convention. It is hoped that the publication of these abstracts will encourage attendance at the meeting and facilitate discussion. The papers presented at Conventions constitute the bulk of the material published in the Journal. The abstracts may therefore be used as convenient reference until the papers are published.

A. C. Downes, *Editorial Vic-President.*

S. Harris, *Chairman. Papers Committee.*

G. A. Chambers, *Chairman. West Coast Papers Committee.*

F. T. Bowditch, F. L. Eich, R. E. Farnham, J. L. Forrest, C. R. Keith, E. W. Kellog, P. J. Larsen, G. E. Matthews, W. H. Offenhauser, R. R. Scoville, S. P. Solow, W. V. Wolfe.

Dynamic Screen—a Speculation; Robert W. Russell, *Training Film Production Laboratory*, Ft. Monmouth, N. J.

Within its present limits, various phases of the motion picture have been brought close to technical exhaustion and artistic satisfaction. Competition with color television and other forms of entertainment require that motion pictures come forth with another "sudden impact of novelty" similar to its other great discoveries: screen personalities, story, montage, sound, color. One great frontier remains for film-makers and engineers: the selective delimitation of the screen. The familiar rectangular screen shape forces the motion picture to accomplish everything within a rigid opening like a window. Feeble attempts have been made to vary this arbitrary shape, usually by trying to substitute other arbitrary shapes: the "Grandeur" wide-film, the square frame, the circular "iris-in," camera matte shapes. Unprogressive justificaton for the present rectangle is in static painters' composition, in commercial standardization, and in a false claim of relationship to the "Golden Section" rectangle. It is possible to speculate on a new type of motion picture production using the unlimited, unframed "Dynamic Screen," permitting another "sudden impact of novelty" to meet the increasing competition of similar medium of entertainment. Great new frontiers of cinematic effect are opened up by making the screen area the entire proscenium wall, by employing a projector lens that will throw the 35mm frame to cover this whole wall as a potential, and by selectively limiting the projected image to smaller pictures within this potential, using peculiarly appropriate or eccentric delimitations in an overall montage of boundaries. Such a production can be imagined, described, and even accomplished with present-day equipment.

Mobile Television Equipment; R. L. Campbell, R. E. Kessler, R. E. Rutherford, and K. V. Landsberg, *Allen B. DuMont Laboratories*, Passaic, N. J.

While portability is a necessary requirement for outside pick-up equipment, several advantages result when portability is carried into the studio. To equip a studio of adequate size with fixed equipment for operation of several cameras involves considerable time and expenditure. However, with portable studio equipment, the entire equipment installation can be located to suit studio needs, as well as moved to different studios or outside locations.

The dolly type of equipment is described in some detail, and systems for program control are discussed. Some of the design features discussed are portability and flexible synchronizing equipment; electronic view finders; oscilloscope monitors; and other operating facilities.

Production and Release Applications of Fine-grain Films for Variable-Density Sound Recovery; C. R. Daily, *Paramount Pictures, Inc.*, Hollywood, Calif.

Fine-grain film materials have supplanted the normal positive type emulsions for all variable-density sound recording and printing operations. The sound-quality improvement realized by the reduction in noise and distortion is now available for all sound operations, including release prints. The paper describes a number of problems encountered and solved in the commercial application of such films for sound recording, including factors affecting the choice of negative and print materials, noise, distortion, sensitometric characteristics, recorder lamp supplies, and noise problems on stage.

Laboratory Modification and Procedure in Connection with Fine-Grain Release Printing; J. R. Wilkinson and F. L. Eich, *Paramount Picture, Inc.*, Hollywood, Calif.

While finegrain emulsions have been in general use for specialty purposes for three years or more, their use as a medium for release prints is comparatively recent. This paper discusses the necesary modifications required in a release print laboratory to produce satisfactory fine-grain release prints. The discussion covers the light source, power supply, light-testing, and printing equipment. Observations noted while processing the first thirty million feet of release prints are made relative to the behavior and charactristics of the film.

A Note on the Processing of Eastman 1302 Fine-Grain Release Positive in Hollywood; V. C. Shaner, *Eastman Kodak Co.*, Hollywood, Calif.

A brief historical resume is given of a series of fine-grain films that have been put upon the market during the past four years. This series of fine-grain films culminated with the acceptance of Eastman *1302* fine-grain release positive at one Hollywood laboratory to the exclusion of regular positive of the *1301* type for release printing. Experimental data are presented to show the comparative sensitometric characteristics of fine-grain positive *1302* and regular positive *1301* at various *p*H values and potassium bromide concentrations typical of Hollywood positive developers. A basic positive developer formula derived from chemical analyses of every release positive developer in Hollywood was used in the experimental work. Some practical facts are discussed, based upon the experiences obtained from the initial use of the fine-grain film in Hollywood.

A Frequency-Modulated Control Track for Movietone Prints; J. G. Frayne and F. P. Herrnfeld; *Electric Research Products, Inc.*, Hollywood, Calif.

A 5-mil frequency-modulated track located between sound and picture areas is proposed to control reproduction in the theater from one or more sound-tracks. A variation of approximately one octave in the control frequency provides a 30-db change in volume range which may be used in part for volume expansion of loud sounds or as noise reduction for weak sounds. The control-track frequency is varied manually and recorded simultaneously with the sound-track in the dubbing operation, the gain of the monitoring channel being varied in accordance with the control frequency to produce automatically the enhanced volume range desired from the release print. The track is recorded in line with the standard sound-track and does not require separate printing or reproducing apertures. It is scanned by a separate

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photosensitive surface, the output being converted from frequency to voltage variatons by a frequency-discriminating network identical to that used in the monitoring channel. The output from the network, applied to the grid of a variable-gain amplifier in the sound channel, controls automatically the volume of the reproduced sound in accordance with that observed in the dubbing operation.

The Design and Use of Film Noise Reduction Systems; R. R. Scoville and W. L. Bell, *Electrical Research Products, Inc.*, Hollywood, Calif.

Methods of increasing the signal-to-noise ratio in film recording that have been extensively developed in recent years include the following: use of double-width push-pull sound-tracks, pre- and post-equalization, fine-grain film, noise-reduction bias systems, squeeze-track, volume compression and expansion, and control-tracks. The principles underlying the use of such systems are treated, and the manner of combining them to obtain the most effective noise-reduction is shown. The design of noise-reduction bias systems is explained in considerable detail and the application to a new unit is described. Although this information has largely developed from the variable-density method of recording, much of it is also applicable in the variable-area system.

Streamlining a Sound Plant; L. L. Ryder, *Paramount Pictures, Inc.*, Hollywood, Calif.

This paper discusses the trend in modern sound-recording equipments. It reviews the objectives and requirements that are now existing in regard to studio recording as contrasted to previous recording systems. Several new developments in the art of sound recording are discussed and from this group are selected a complementary series of improvements which together are streamlined into a new recording plant.

A Precision Direct-Reading Densitometer; M. H. Sweet, *Agfa Ansco Corp.*, Binghamton, N. Y.

The history of physical densitometers is briefly discussed. In spite of developments in modern electronic circuits, simple photoelectric instruments suitable for routine sensitometry are not yet in common use. The present densitometer is designed to fill this need.

The minimum requirements for a satisfactory instruments are outlined. Photographic density as such, and destiny standardizations are discussed.

The densitometer density of the present instrument as related to that of other types is demonstrated. The opitcal aspects, including the geometry and spectral qualities of the system, are explained, and the problem of calibration discussed. Emphasis is placed upon the practical agreement of different optical systems suitahly calibrated, and specific examples are shown.

The circuit arrangements of previous photoelectric densitometers are outlined. The theory and practical development of the present electrical circuit are described, and the effects of the novel features are shown. An accurate linear density scale is obtained in a single-stage d-c amplifier, and the sensitivity is sufficient to permit the use of a rugged output meter. A density range of 0 to 3.0 is covered, and the characteristics of the output meter are given.

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The technics used in prior densitometers in attempting to secure a linear density scale and adequate scale length for good legibility are discussed, and the technic used in the present instrument is compared with them. The performance characterstics of the electrical circuit make it suitable for application to recording instruments.

The routine operation is described and the permanence of calibration is shown. Data are given on the warm-up period and drift, and on the influence of varying line voltage. Operation is entirely by alternating current. Practical performance considerations such as convenience in reading, eye fatigue, *etc.*, are reviewed, and figures showing the comparative speed of operation and reading accuracy are given.

A Review of the Question of 16mm Emulsion Position; Wm. H. Offenhauser, Jr., *Precision Film Laboratories*, New York, N. Y.

When a 16-mm sound-film is properly threaded in a 16-mm projector, the emulsion of the film may face the screen (which position is called the "standard" position) or it may face the projector light-source (the "non-standard" emulsion position). The well-designed 16-mm "standard" or "non-standard" prints.

In the case of 35-mm film, the standard position for the emulsion of a print is opposite that for 16-mm; in 35-mm, the emulsion faces the light-source of a projector. The anomaly of the 16-mm emulsion position around from the fact that a large number of the earliest 16-mm commercial sound-films were made by optical reduction from 35-mm negatives. Since the "standard" was established, however, numerous developments have occurred in direct 16-mm production which now practically compel the recognition of so-called "non-standard" prints as a factor of fast-growing importance in our rapidly growing 16-mm industry. The expression "non-standard" emulsion position no longer carries the stigma ordinarily associated with other things that are called non-standard.

Motion picture films may be printed either by contact (the emulsion of the film to be copied is in physcal contact with the raw film upon which the copy is to be made) or by optical printing (the emulsion of the two films are not in physical contact; some form of lens system is interposed between the film to be copied and the raw film upon which the copy is to be made). By far, the largest percentage of picture film printed today is printed by contact methods. It does not seem likely that 16-mm picture film will be printed optically in the near future for a number of reasons, not the least of which is the lack of available lenses due to the defense program.

The use of Kodachrome duplicates has been growing very rapidly and since contact printing of Kodachrome originals will continue to be used for some time, the "non-standard" emulsion position will continue to be a rapidly growing factor in 16-mm sound-projection that can not be ignored.

Some Equipment Problems of the Direct 16mm Producer; L. Thompson, *The Calvin Company*, Kansas City, Mo.

The production of industrial films by the direct 16-mm method is now definitely out of the experimental stage.

As more industrial work is done by this method there is an increasing demand for more and better 16-mm equpment suitable for professional use. Such equipment can be developed successfully only after the professional user has found by actual experience what he needs and wants.

A number of 16-mm professionals were asked for suggestions as to what is needed. These suggestions, combined with the author's own ideas gained over a period of 10 years in the professional 16-mm field, form the basis of this paper. Some of the ideas presented could be acted upon immediately; some of them can not be put into practice until the demand for 16-mm service becomes even greater.

A Constant-Torque Friction Clutch for Film Take-Up; William Hotine, *The Rotovex Corp., East* Newark, N. J.

From the standpoint of film protection, a take-up mechanism should be reliable, wear should not appreciably alter its characteristics, and it should maintain the film tension between safe limits. These objects are attained by driving the take-up spindle through a constant-torque clutch of novel construction and design. A new type of friction-clutch is described, which, when adjusted initially to deliver a given safe torque to the take-up spindle, maintains this torque at a constant value of which can not be exceeded. The clutch construction is simple and rugged, and wear of the friction element does not appreciably affect the operation. Due to the fact that the torque at the take-up spindle is maintained at a constant value, a safe value of film tension is not exceeded. An analysis of the forces and mechanical constants of the clutch mechanism is given, deriving an equation of these in terms of torque delivered.

Recent Developments in Projection Machine Design; E. L. Boecking and L. W. Davee, *Century Projector Corp.*, New York, N. Y.

This paper discusses the design features of a new projector to meet the ever-increasing demands for accuracy and simplicity required by modern projection in the theater. Basic, fundamental, scientific functions of motion picture mechanism design are discussed relative to perfection of film motion, clearer definition, light transmission, and picture steadiness.

As in the design of any scientific mechanical device, the stability and inherent durability must first begin with perfection in the basic design and it must he huilt upon a foundation of engineering knowledge proved hy practical operating experience. In order that these design features may be appreciated it will be the purpose to show how every step of the engineering design, every part of the mechanism, and every motion were carefully planned so that mechanical perfection could be achieved.

The design and operation of the gear-train are discussed with respect to its simplicity, mechanical accuracy, and long life; the design and operation of the bearings are reviewed in the light of recent developments relating to permanent operation with minimum servicing; and the intermittent movement operation is analyzed in relation to more stable operation and steadier picture reproduction.

The film-gate and film-trap design, providing more uniform film travel at less film tensions, is described as well as methods of obtaining perfect placement of the film plane with respect to the optical axis. Finally, the theoretical design features of single- and double-shutter operation are outlined and the actual operating results expected and realized discussed.

Economic and Technical Analysis of Arc Lamp and Screen Light Characteristics; H. D. Behr, New York, N. Y.

Many exhibitors do not understand what is meant by the relative inefficiency of power for ultimate consumption at the arc in comparison to power actually delivered at arc. Deficiencies in various parts of the projection plant are described and a value is placed upon losses to emphasize the need for constant attention to details.

Tables are presented showing the excessive carbon and current costs that result when arcs are operated at higher currents due to defects in equipment. Emphasis is placed upon the fact that too many arcs operate at or near the upper limits for which they were designed and too little leeway is left for extra current to increase light for dull prints or color prints.

Some ideas are given as to what to look for in competitive arc equipments. Various procedures are described for minimizing current and carbon waste due to poor reflector mirrors.

Suggestions of projectionists have too long been ignored by managements. The latter should take a little time from their booking and other problems to ascertain that poor screen light is costly and definitely contributes to drops in attendance.

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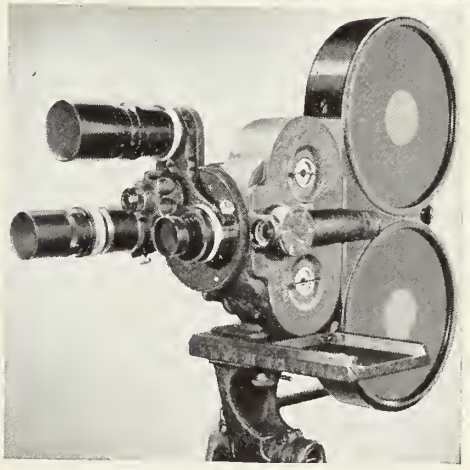
EYEMO MODEL K (*right*), a light, simple camera for quick field work. Single-lens head. Instant lens and viewfinder interchange. Film speeds—12, 16, and 24 f.p.s. Aperture optional—silent or sound area—either with matching viewfinder.



EYEMO MODELS L AND M. Compact, three-lens turret head. "Sound" field viewfinder is matched to six lens focal lengths by turning a drum. "Sound" aperture plate. Speeds: Model L—4, 8, 12, 16, 24, and 32 f.p.s.; Model M—8, 12, 16, 24, 32, and 48.



EYEMO MODELS N AND O. Three-arm, offset turret permits broader choice of lenses. Turret lock is particularly appreciated with long, heavy lenses. Visual, prismatic focuser with magnifier. Speeds: Model N—4, 8, 12, 16, 24, and 32; Model O—8, 12, 16, 24, 32, and 48.



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TELEVISION



Dr. Lee de Forest, pioneer of yesterday and today.

By Duster Evans

Never once since his invention of the audion (three electrode radio tube) has Dr. de Forest rested upon his laurels. He has steadily continued his ardous work in invention and research in electricity and electronics, and now has nearly 300 patents in the United States and foreign countries. These are in wireless telegraphy, radio telephone, wire telephone, sound-on-film talking pictures, high speed facsimile, picture transmission, television, and radio-therapy for physicians.

For the past eleven years he has resided in Los Angeles, following his sensational development in New York of the talking picture film. During this time Dr. de Forest has been engaged in important research in the field of television and more recently in that of short wave or radio diathermy, as well as in certain adaptations of radio signalling to the needs of aviation. This latter applies particularly to a terrain altimeter to enable the pilot of an airplane to know at all times his exact height above the earth, or his distance from a mountain side.

During the course of his research work in radio diathermy Dr. de Forest invented and perfected his "Radio-Glow" method of applying weak high-frequency currents, by means of an especially designed facial mask, to the face and throat. This is for use in beauty parlors to benefit and improve the complexion by application of short wave high frequency currents to the skin and underlying tissues of the cheeks and throat.

This treatment and the apparatus for applying it, which he calls the Relaxor, has after two years of investigation and experimentation been perfected to a degree where the Doctor now feels it is ready to be offered to the public. According to the inventor this method of treatment generates infra-red or heat rays within the tissues, aiding the conduction of dissolved substances into the membranes by heat and molecular vibration of the cells and tissues, keeping the oils and creams spread on the surface of the skin under constant but gentle heat, opening the pores and penetrating dormant cells and tissues. As the name "Relaxor" implies, one is said to experience a feeling of relaxation of tense muscles and nerves, which must be beneficial during these tense, history making days, as Europe alone does not suffer from this hideous "war of nerves."

While the Relaxor is a recent invention in the realm of physical therapy, as early as 1907 Dr. de Forest gave to the surgical world the "Cold Cautery" or radio knife. He is today actively in charge of all research, design and developmental work at the Lee de Forest Laboratories, where his short wave diathermy apparatus is manufactured and distributed.

Physicians are today beginning to realize the benign possibilities of radio-therapy, when properly applied, to the ailments and diseases of mankind.

Not only is the machine applied to man—but to his pets as well. Many veterinarians now use short wave diathermy to relieve the suffering of household pets and live stock. As early as 1935 a rather unimpressive fat steer exhibited at the Great Western Livestock Show in Los Angeles stole much of the attention away from the show's champions. That fat steer was the first calf ever treated for pneumonia by short wave radio. It had been included in a carload of stock exhibited by the Hathaway Ranch, of Santa Fe Springs, California, and named "De Forest" in honor of Dr. Lee de Forest.

One could go on indefinitely reviewing the wonders which have resulted from the life work of Dr. Lee de Forest. It is impossible to conceive all the benefits springing from his initial invention of the audion amplifier tube. This little tube, once referred to in our courts as "a worthless piece of glass," has given us the present long distance phone, the talking motion picture, and all the pleasures of radio in our homes, to say nothing of the many thousands who are now employed in these great and growing industries; or of the countless human lives saved at sea by the S.O.S. call and the numberless thousands whose pain and suffering have been relieved by his medical diathermy apparatus.

I don't believe there is a healthier man in America than Dr. de Forest—every day he takes a long walk and exercises. Many years ago he stopped smoking cigarettes when he realized they could not do him any good. Vacationing in August, he climbed 5,500 feet up to Mt. Black, just to try his legs, lungs and heart, followed by a dash up to Mt. Shasta 14,380 feet.

Dr. de Forest has always been a great inspiration to young men who have aspired to make headway in the electronic field, and it was for this purpose that he laid out DeForest's Training which is associated with the Herman A. DeVry Corp., manufacturers of the world's largest line of moving picture sound equipment. Many young men in the army and navy and electrical

(Continued on page 26)

TRADEWINDS

"Slidetitles" Available from B & H

Film titling service is no longer confined to amateur movie makers, according to an announcement just received from Bell & Howell. "Good titles will add just as much interest to a show of projected still pictures," says B & H, "as they do to a movie show, and we are now prepared to furnish our entire selection of 79 Title-Craft backgrounds on Slidetitles."

The announcement states further that the Slidetitles, furnished on 35mm. film in 2″ x 2″ standard cardboard mounts, are available in two two-tone combinations for use with color transparencies: green with gold overtones and gold letters or brown with gold overtones and gold letters.

Title-Craft's stock of backgrounds includes two types, photographic and poster, and is said to contain subjects suitable for every season and a wide variety of occasions.

Prices on Title-Craft Slidetitles on poster backgrounds begin at 25c per title, on photographic backgrounds at 35c per title.

For further information, write the Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

Agfa Offers Greeting Card Outfit

Again Agfa Ansco offers an outstanding line of attractive holiday greeting-card materials that will be of particular interest to the amateur photographers who make their personal Christmas Cards.

Greeting Card Outfit 1A contains four different film masks of extremely attractive design, and special, new, stencilling materials for reproducing the user's signature on the cards photographically—with complete instructions for use. The masks are 5x7″ overall and are proportioned to use paper of the standard 4¼x5½″ greeting-card size. Three of the masks contain cut-out openings of 2x3″ to take negatives with a vertical format, and the remaining mask takes horizontal negatives. The *1A Greeting Card Outfit* is obtainable through regular photographic dealers at $1.25 each.

Three especially designed masks, which sell separately at $.65 list each, are available to accommodate various-size negatives.

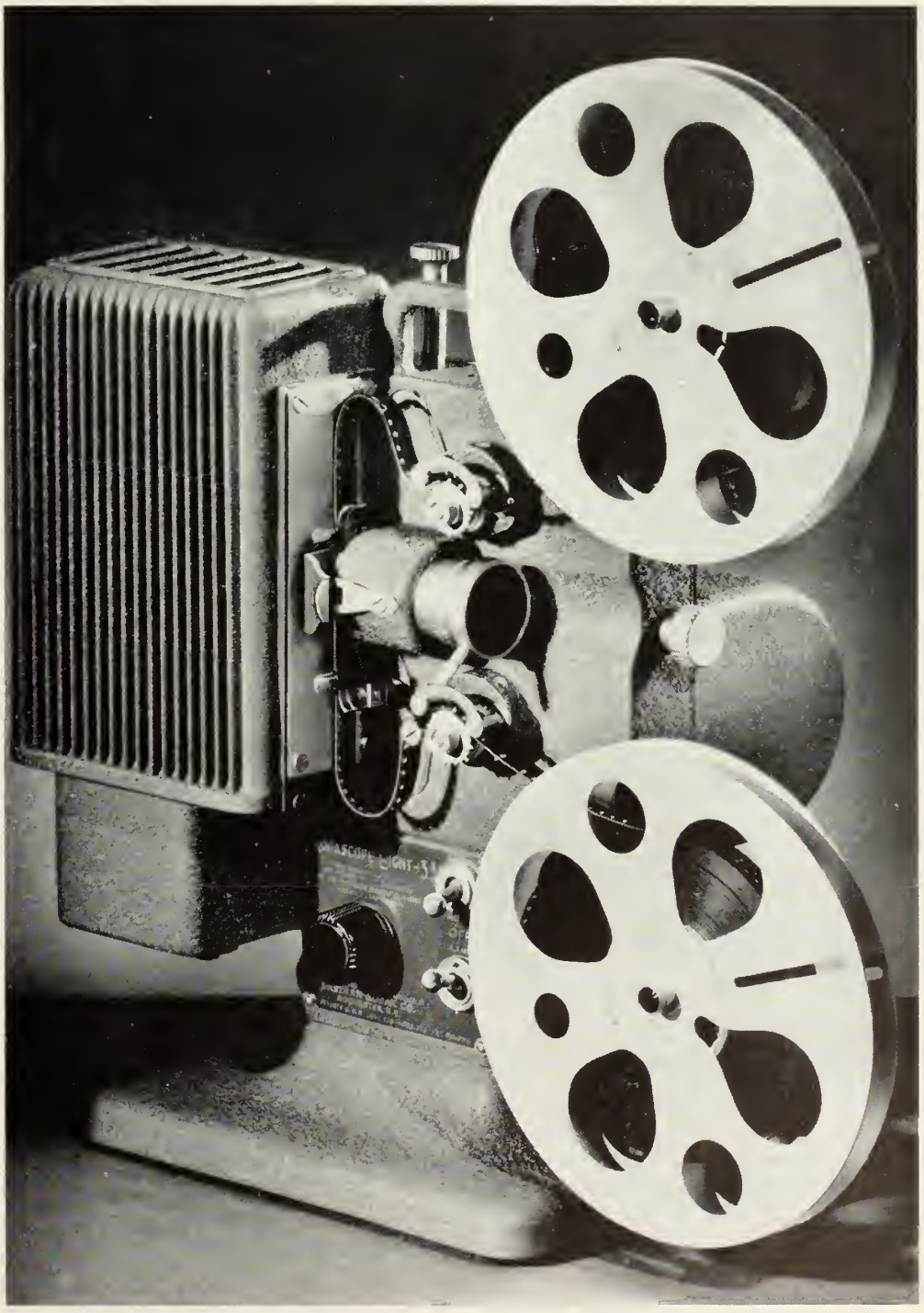
A special surface of Agfa paper, known as *Greeting Card Special*, is provided for use in making greeting cards. This paper is priced the same as Convira double weight and is supplied in four grades of contrast in deckled 4¼x5½″ size.

White vellum envelopes, either lined or unlined, are also available. These envelopes make an attractive combination when used with photographic Christmas Cards and list at the following prices: Unlined—25 for 20c, 100 for 75c, 500 for $2.65; Lined—25 for 30c, 100 for $1.15, 500 for $4.15.

B & H Illumination Explained

We noted not long ago that Bell & Howell is now using smooth-base projection lamps, still retaining the centering ring that this company has employed for many years. Since no other manufacturer has ever adopted such a ring, we were moved to wonder why Bell & Howell continues to go to the trouble of putting a centering ring on each projection lamp. And we wondered, too, just how this "pre-aligning" is done by the makers of Filmo. So we asked.

"This is another example," said B & H "of the manner in which standard products are tested, refined, and improved when used in B & H equipment. This pre-align-



Eastman Kodascope Eight-33 Projector, described in September issue.

ing ring is put on the lamp so that our owners will get the brightest possible pictures. Our engineers have proved that there is no other way to be sure of maximum illumination.

When the lamp is thus pre-aligned, still held rigidly in position in the machine, the well-known B & H tongued ring is brazed to the lamp base in the correct locating position. The tongue on the ring, says the company, guides the lamp to the one and only position in the projector wherein it can place all the light where it belongs—on the screen.

Thus, says Bell & Howell, each lamp is a custom job, built for the Filmo Projector into which it will go.

"Our lamps are just like any other projection lamps when we get them. However, incoming inspection rejects and sends back all but the best, and then our laboratory goes to work on the lamps we keep."

The selected lamp, Bell & Howell continues, is placed in a specially-built aligning and brazing machine, wherein the lamp is lighted. The image of the filament is then projected upon an optical target, and with micrometer screws the lamp is turned, raised, or lowered, until the filament image is accuratey focused on the exact center of the Filmo Projector optical system. B & H states that this adjustment is accurate with .002 inch.

But even that isn't the whole story. This company goes to extremes in the matter of picture brilliance, so, not content with microscopic accuracy in placing the lamp exactly right in the projector, B & H provides a reflector adjustment in the projector, to compensate for variations in individual lamp filament coils! This makes it possible, says Bell & Howell, to interlace the reflected filament images with the filament coils themselves, thus providing better light distribution over the screen area.

This extreme attention to picture brilliance is applied to both 8mm. and 16mm. Filmo Projectors.

For further information on this or any other detail of projector construction, write the Bell & Hwell Company, 1801 Larchmont Avenue, Chicago, Illinois.

TELEVISION

(Continued from page 24)

plants in the United States owe these opportunities to Mr. DeVry and Dr. De Forest for the fine extensive training they received.

When I spoke to Dr. DeForest a short time ago he said, "Never in the history of radio, television, frequency modulation and sound pictures have there been so many opportunities offered to young men for a good commercial training in these fields. New beacon stations are being built, new air routes being developed, tremendous building programs, both marine and aviaiton for commerce and defense. Frequency modulation has spread to 23 states, with 53 stations licensed, and 59 pending."

Any young man can be a part of this growth by entering the electronic field and those wishing to secure information may address the author, care INTERNATIONAL PHOTOGRAPHER.

Grover Camera Features Mono-Rail Bed

The new Grover Camera, now being produced by Burke & James, Inc., of Chicago, is available in the 4x5, 5x7, and 8x10 inch sizes. Its most outstanding feature is its mono-rail bed. This consists of a hexagon shaped rail, upon which are mounted the lens standard, the tripod mounting plate and the camera back. A micromatic friction focusing drive is fitted on both front and rear. The hexagon shape of the rail bed assures perfect alignment of front and back—and eight bearing surfaces or contacts provide perfect slip-proof traction for the friction focusing drive. The tension maintained on these bearing points is of the automatic take-up type—and the tension is adjustable to suit the operator.

Operating adjustments on both lens front and camera back include rise and fall, side shift, swing and tilt. The removable lensboard permits instant interchange of lenses. Extreme wide angle or telephoto lenses may be used.

The camera back on the 4x5 model is of the revolving type, permanently attached to the body, and light tight in all positions. It may be rotated from horizontal to vertical position instantly. The 5x7 and 8x10 camera have a reversible back. The full size ground glass focusing panel is fitted with a four sided, folding light hood.

These cameras which are of all metal construction are fitted with a durable double extension bellows finished in silver grey to match the chrome finish of the metal parts.

The 4x5 inch camera sells for only $59.50, 5x7 inch, $69.50 and the 8x10 inch $89.50. Illustrated descriptive literature may be had direct from Burke & James, Inc., 223 W. Madison St., Chicago, Illinois.

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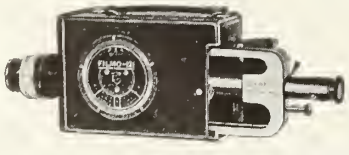
Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



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— Patented —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



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CORRECTION



In our August issue, page 9, lower right hand picture, only part of the camera crew were mentioned. We repeat the picture with apologies for the oversight. Included in the photograph are Cecil Wright, Warren Lynch, Alfred Smalley, Eddie Fitzgerald, Arthur Edeson, George Bourne, Mike Joyce, Wally Mainardus.

16mm. department

FILTERS—THEIR USE AND MISUSE

As bad as never using a filter at any time for any purpose whatsoever is the practice of using a filter just to be using one. In fact, the latter is probably worse. Present day films are so balanced when panchromatism is introduced that for any ordinary scenes the omission of a filter results in a far more natural result — and pleasing result—than the promiscuous use, or, rather, *thoughtless* use, of the filters at hand.

To begin with, filters have *many different uses*. Primarily, they were—and *are*—used to bring the response of the emulsion used more nearly to that of the eye. All films are more sensitive to blues than to any of the other colors, and unless the strength of the blue rays entering the lens is lessened the exposure necessitated is such that the other colors do not have a chance to act completely upon the emulsion, with the result that they are not photographed in their true relationship.

Perhaps it would be better to first look into the action of filters. Actually, if we have a red filter — pure red — this filter would pass *only* the red rays of the spectrum, and *hold back* all the others. This would also be true of all the other color filters. An important point to remember, however, is that this is true only of a filter that is known to be true in color, such as the primary tri-color filters A, B, and C used in making three-color-separation negatives. (In actual practice, however, such filters are rarely used except for making separation negatives and in special cases for black and white work.) Going back to the operation of the filters, a yellow filter would hold back the blue sky, which would photograph as white without correction, and permit a normal exposure of the foreground while the sky would be photographed in a normal tone. Hence, any clouds appearing in the sky would photograph as clouds instead of being lost in the mass of white that would represent the sky.

Distortion of color response would be true wherever a noticeable amount of blue were present, and could be corrected by the introduction of a *light yellow* filter to hold back the blue a little, giving the other colors a chance to act normally upon the emulsion, without burning up the blues because of the greater sensitivity of the film to that color. A scene photographed in this manner would result in a pleasing picture, with the tones represented naturally—as they really are.

When a deep blue sky is present, *very little correction* is needed. Should the heavier filters be used, *overcorrection* will result which will render it unnatural, and if any clouds are present, they will take on the aspect of storm clouds. On the other hand, if the sky is a hazy one, such as seems to be present over Hollywood so much of the time, (San Franciscans and Chamber of Commerce please note!) then a much greater amount of correction will be found necessary in order to keep the sky from going "bald." The foreground will still be overcorrected, but this effect will not be so noticeable because of the natural appearing sky. The *ideal* way to deal with a condition of this sort—and this used professionally—is to use a *graduated* filter, where the top portion covering the sky may be a 23A or 25 (light and heavy red, respectively) which blends down into an Aero 1 or 2 (very light yellows) covering the ground. While this is one of the most common uses of a filter, it is *only one* use.

Filters have the ability of changing the contrast existing in the scene. Used in scenes where there are strong contrasts in the form of strong highlights and fairly deep shadows, the 3N5 and 5N5 will soften the scene down. On the other hand, filters like the 21, G, (both deep yellow) the 23A and the 25 (reds) will make a rather flat looking scene photograph with a much greater contrast. It must be emphasized that this change of contrasts will be effected at the expense of true rendition of colors, and must be used with this thought in mind.

To bring home a point, let us consider for a moment a haystack against a blue sky in which there are clouds, and where the rest of the field is a fairly deep green. Photographed without a filter of any kind, the yellow haystack would go very light because of the high sensitivity of the panchromatic film to yellows; the blue sky would go white because of the *unnatural* sensitivity of the film to blues, while the green would photograph quite naturally. The introduction of a *light yellow* filter (such as the Aero 1) would hold the sky back to a neutral tone sufficiently to permit the clouds to stand out, without permitting the yellow haystack to build up too strongly because of the high yellow sensitivity of a panchromatic film, and would not hold too much blue back to make the grass go too dark. Green, you will remember, is a combination of yellow and blue. If a heavy filter were used here, we would have a sky that would be too dark, clouds looking like storm clouds, a white haystack, and green green grass or other foliage that would go too dark, almost black, in fact. On the other hand, if the sky were *not* a deep blue but rather hazy and flat in character, then the heavy filter would be called for. It would take a deep filter to give character to the sky and make it appear a natural blue; the haystack could be printed down a little deeper to keep it from going white; and the added exposure that would be necessary for such a light condition would enable the foliage to build up to a value to keep from going black. There are conditions where a *red* filter would not result in a picture giving the appearance of being overcorected by adding the proper amount of contrast to an otherwise flat scene.

A filter little used, but none the less very useful, is the neutral density filter. This filter has no color corrective properties, but is merely of a grayish tint for the purpose of holding back some of the light. It is particularly useful where there is a strong glare "kicking back" from sidewalks, streets, and objects of highly reflective natures, and when shooting with the sun coming from behind the subject. It is also of great value when it is desired to work with the larger lens apertures on close-ups to give the background a softness that results when the depth of focus is made smaller by using a wider stop. Frequently, too, one finds when using the fast films that the aperture indicated is smaller than is physically possible with the equipment at hand, such as when shooting in bright sunlight and where the lens will not stop below f:16, and the shutter is not of the adjustable variety. The *only* solution here is the use of the neutral density filter.

Night effects can be simulated in bright daylight by the proper use of filters. An excellent combination is the 23A and 56, where the film is not too red sensitive, such as the regular panchromatic. The extreme red sensitivity of the faster films makes the use of the 72 and 80 more desirable. The most satisfactory and pleasing is the use of the infra-red number 88, used with infra-red film, but this is something that should not be attempted by the novice because of the nature of infra-red film, and the problems its use will poise.

Filters should *not* be used indoors with incandescent lighting, unless they are used for special effects, and under special conditions. The spectrum of a standard nitrogen filled bulb is such that the light is *equivalent to a light yellow filter*, and the use of a filter would result in a distortion similar to overcorrection. True, there are times when deep blue eyes would be lost and go white unless the blues would be held back a little by means of a light yellow filter. And there are times when certain types of blond hair would go white in a close-up without the use of a light blue filter. But these are problems for the expert, and unless the amateur has reached that stage of proficiency where he can deal with them accordingly, his efforts will result in failures.

The use of filters for color photography requires an *entirely different approach*. The *sole* use of filters with Kodachrome is for the maintenance of a given specific color temperature, and *never* to correct the film response to the visual response, nor to correct for contrasts. In using filters with Kodachrome, a color- temperature meter is

(Continued on page 28)

PATENTS

By ROBERT W. FULWIDER, *Patent Attorney, Los Angeles*

No. 2,251,365—Photographic Sensitive Material. *Alfred Miller*, Germany, assignor to General Aniline and Film Corporation. Application July 26, 1938. In Germany July 28, 1937. 7 claims.

A film having an emulsion sensitive to one color, and a second emulsion superimposed on the first emulsion and sensitive to a different color, with an anti-halation backing which absorbs the light to which the first emulsion is sensitive.

No. 2,251,777—Sensitized Photographic Emulsion. *Fritz Bauer* and *Gustav Wilmanns*, Germany, assignors to General Aniline & Film Corporation. Application December 8, 1939. In Germany December 9, 1938. 2 claims.

Photographic silver halide gelatin emulsions containing a furyloxdiazole-trimethinecyanine dyestuff.

No. 2,251,850—Method of and Apparatus for Producing Stereoscopic Pictures. *Ciro Fidel Meudez*, Mexico City, Mexico. Original application July 8, 1936. Divided and this application May 6, 1939. 3 claims.

A method of producing stereoscopic pictures by projecting a normal picture and vertically distorting it, and then reflecting it from a concave cylindrical surface to produce horizontal distortion.

No. 2,251,965—Color Photography and Color Photograph. *Honore Verkinderen*, Belgium, assignor to Gevaert Photo-Producten, N. V., Belgium, Application March 11, 1938. In Austria March 30, 1937. 2 claims.

A method of producing a color photograph in which different emulsions carry different color values, the method including developing, fixing, and converting the silver to a silver salt image, separately exposing the outer emulsions to ultra violet light and toning them, and then exposing the inner emulsion to white light and toning it.

No. 2,252,006—Sound-Picture Film and Method of Printing the Same. *Gilles Holst, Roelof Jan Hendrik Alink*, and *Klass Jannes Keuning*, Netherlands, assignors to Hartford National Bank and Trust Company, Hartford, Conn., as trustee. Application Jan. 6, 1939. In Germany Jan. 8, 1938. 4 claims.

A method of printing a sound film in which the sound record is printed from the sound negative and the picture record is printed from the picture negative and through a screen adjacent the positive film.

No. 2,252,282—Sound Film Reproducing System. *Arthur C. Blaney*, assignor to Radio Corporation of America. Application April 22, 1940. 8 claims.

The method of reproducing a push-pull sound record comprising illuminating said record with a narrow beam of light positioned at an angle of substantially 30° to a line normal to the direction of movement of said record, and impressing the light emerging from said record on a photoelectric cell.

No. 2,252718—Reversal Process of Color Photography. *Leopold D. Mannes, Leopold Godowsky, Jr.*, and *Lot S. Wilder*, assignors to Eastman Kodak Company. Application Jan. 19, 1938. In Great Britain November 19, 1937. 6 claims.

A method of forming colored photographs by exposing and developing a multilayer film, and then individually exposing the different emulsions and developing them in color-forming developers, and finally removing the first silver images.

No. 2,253,070 — Color Correction in Printing Multilayer Film. *Ralph W. Evans*, assignor to Eastman Kodak Company. Application August 16, 1940. 4 claims.

A method of making a color-corrected photograph in which the color sensitive emulsions are covered with a fogged silver halide layer which is later used as a correcting mask.

No. 2,253,874—Film Coupling. *William B. Tucker* and *Frank W. Taylor*, assignors to Technicolor Motion Picture Corporation. Application April 4, 1940. 3 claims.

A device for fastening two ends of film together, and consisting of two ribbon-like pieces, each attached to its respective end of film, with a pocket formed in one piece into which a hook formed in the other may snap.

16MM.

(Continued from page 27)

used to determine the color-temperature of the light working under, and then if this value differs from the value for which the film was balanced, a filter is chosen which will bring the light to the proper value. The only way in which the sky can be made deeper than it really is, is by means of a Polascreen. This polarizes the light coming through it, and if it is rotated in a certain position so as to permit only a portion of the light coming from the sky to go through because of the plane of its polarization, then the sky will appear darker than its hazy appearance ordinarily would permit without the use of the Polascreen.

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WANTED TO BUY FOR CASH EYEMO CAMERA. Box L-64, International Photographer, 6461 Sunset Blvd., Hollywood.

EYEMO CAMERA WANTED. Will pay cash. Give full details first letter. Address Box 155, Deerfield, Illinois.

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They Say---

By RELLA

● Fifty-four studio employes who are officers and members of the Photographic Unit, Naval Reserve, called for duty by the Navy, seventeen to report to Washington and the others to the Naval Air Station at San Diego. Called for report to Washington are Ensign Ray Kellogg, reporting to Coordinator of Information; Lieutenants Joseph H. August, Alfred L. Gilks, Allen G. Siegler, Harold H. Wenstrom; Chief Photographers Robert Rhea and William J. Wheeler; Photographers First Class George Irvine, George Jones, Edward Smith and Wallace White, Jr.; Photographers Second Class Edward Hamilton, Benjamin Heath, Hontis Jones, Jack MacKenzie, E. H. Tronowsky and Rodney Yould.

Called to San Diego Naval Air Station are Chief Photographers Frederick Anderson, Vincent Farrar, Kenneth Peach, Louis Tyrell, Allen Stein and Lou Yaconelli; Photographers First Class Charles Bjorkman, Hartman Cooper, Edward Hartman, Paul King and George Tuttle: Photographers Second Class Glen Christman, Nicholas DeMoss, Frederick Dieterich, Germalia Gates, Isadore Gold, Ray Grimes, Robert Harris, Harold Hogan, John Howard, Jack Johnston, Myron Miller, Harry Nichols, Robert Orton, Al Shaffer and Lawrence Work; Photographers Third Class Robert Brown, Bryan Hargreaves, John Helmick and Paul Wurtzel.

● George Hurrell, whose portraits have been appearing in Esquire for several years, now heads photographic department of that magazine on West Coast. Hurrell will continue his own portrait work also.

● Eric Mayell, cameraman Movietone News, awarded a Navy Expeditionary Medal, presented by Secretary of the Navy, Frank Knox, for "commemoration of the services rendered by you to the survivors of the U. S. S. Panay upon the occasion of its bombing December 12, 1937."

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Susan Hayward, currently in Cecil B. De Mille's "Reap the Wild Wind," poses before the camera of Malcolm Bulloch to show that she is ready for Thanksgiving.

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"WILMA" *By William Mortensen*

THE TIN CAN SQUADRON

By Warren McGrath

The adventures of the author aboard a United States Destroyer during the filming of "American Seapower" for Movietone News, Inc. Passed by United States Naval Censor, 11th Naval District.

'Sfunny thing about that Tin Can Squadron. They're as rough, tough and salty a bunch of sailors as you'll find anywhere on the Seven Seas—but to a man they are specialists in the art of being a streamlined, efficient version of the old jolly tar. A version, I might add, that is so necessary in the modern warfare of "movement." There is also a lurking suspicion that they effect a hearty disdain for the "battleship" sailor. But, as for myself, I believe each deserves a great amount of respect, admiration and gratitude for it's a "he-man's" job that Uncle Sam's Navy is doing out there these days.

F'rinstance you take these Tactical Maneuvers. There *was* a time when the Navy would take a pleasant jaunt each springtime and accomplish most of their drilling for the year in the short space of something less than two months. That's now in the "I remember when" stage. Today, our streamlined defense forces are constantly on the alert. Sleek, warpainted men-of-war steam out of their harbors under the veil of the strictest secrecy and "Think, but don't talk" has become the watchword of Naval Intelligence.

But there is a new note that is fast becoming part of our defense forces. A note that is as modern and efficient as a "panzer unit." A note that holds promise of being as deadly as a Stuka, for peacetime photography has kept step with all of the frantic developments of destruction that modern warfare has unloosed. Now, when each day seems more tense than the last, the men of the motion picture industry are ready to throw their vast knowledge and experience into the scales. Who can foretell but what they might be a great factor in tipping the balance in our favor?

It was our fortunate assignment to join the Navy for a short period to bring back action pictures of our fleet in the Pacific. I might add that when the time came to spend a week on a destroyer, I wasn't so sure we were "fortunate." We seemed to take the hard way as it was blowing up to gale-like proportions. I think they called it a 45-knot "breeze." Our problem was to transfer from the security of a first line battleship to the plunging deck of one of Uncle Sam's seagoin' greyhounds. The angry foam-flecked ocean that received us as we lowered away from the ship's side made our tiny motor whaleboat bob around like a cork. I remember being just a little resentful of the smirks that greeted me as I sprawled on the deck after a series of kangaroo-like leaps up the ship's ladder. The enlisted men in blue denims and the officers in khaki were a grim and efficient looking bunch. I learned later that a finer, squarer, more "he-manish" bunch of fellows could never be found on God's footstool.

Well—we got a break. Imagine finding a nice berth waiting each of us on ships noted for their utilization of every square inch of space. True we could not room together and each shared a room with one of the officers but that proved to be the least of our troubles. My roommate was a swell fellow—an Ensign just completing his second year out of the Academy. Let's call him "Skillet"—all his brother officers did since they pinned the name on him at Annapolis. He didn't even embarrass me by asking if I got seasick but just invited me to make myself comfortable. I pulled over a chair and sat down facing the porthole on the 'midships side of the cabin. The inarticulate cry from Skillet came too late. It seemed as if a giant hand just lifted me bodily and hurled me against the "skin" of the ship. I lifted a dazed head in impressive silence and after that *always* sat athwartships.

Came dinner time. I confess I was having just the slightest doubt about the condition of my stomach. Maybe it was that second piece of apple pie I had on the battleship. Anyway we made our uncertain way to the Officers' Wardroom. A strange sight greeted me as I surveyed my first Destroyer "Dinner Table." If you've ever seen table racks you can appreciate my thoughts as I saw the neat box-like arrangement that securely anchors each plate and cup in place while you eat. The mess boys silently wait for you to be seated and then *lash* you in place. It's all very matter-of-fact but *so* impressive. To my undying credit I still insist that I enjoyed that first meal and had a good night's sleep. I even ate a whopping big breakfast the next morning and got ready for the day's work with keen anticipation.

Our maneuvers were scheduled for the afternoon and we were making easy headway to our rendezvous all morning. Green waves were ploughing regularly over the bow and angry white caps made the ocean seem almost white. Luncheon definitely had lost its attraction for me so when the familiar "call to quarters" sounded I was standing by ready and waiting. It was useless to deny the fact that old man Mal de Mere had at last claimed me for his victim. Someone had kindly donated a pail and if I could have worn it around my neck I possibly could have paid more attention to duty. Our speed was 26-knots and we were working up to "x" speed, which was top. Seated on a queer bicycle-like seat on one of the upper platforms and strapped in by means of a broad web belt, I felt for all the world like a cowpuncher riding a bronco. "X" speed now! The wake from our stern was six feet above the deck back there. Off to our starboard bow our enemy is sighted and our problem begins!!

We were leaping out of the water now. The wag who said that destroyers "have a motion all their own" never spoke truer words. The squadron ahead of us was smoke screening. Swell stuff! What a setup! A man-made cloud effect just for us. We were turning now and ploughing through the smoke screen. Our cameras were turning too—grinding out hundreds of feet that would see their first screening before the censoring eyes of the Naval Board of Review. Officers were cooly passing out their necessary orders while the men were at their "quarters," (stations) alert, tense but calm with it all. Looking them over I wanted to offer a silent prayer of thanks that the safety of our nation is entrusted in the hands of men like these.

(*Continued on Page* 16)

The Model

A pretty face and a pretty figure may suffice to make people look twice when a girl enters the room, but for the model, this business of being beautiful is a constant and strenuous routine.

The old adage of "Early to bed—" was never so true as when applied to a model, and abstinence from all things that impair the face and disintegrate the body is a never-to-be-broken law. Daily exercise of the proper sort, care of the hair and skin, constant attention to posture, carriage and facial expression, all are vital essentials to the physical requisites of good modeling.

The young lady on the opposite page, who is being groomed by the Mortensen School of Photography, finds little opportunity during her active day for outside interests. Her health and beauty are no longer a mere matter of vanity, but her job—and a hard one.

Compensation for the rigid self-discipline and sacrifice required, is the ability to be part of a creative scheme—a picture.





Tamara Toumanova, the famous ballet danseuse, in gypsy costume. Born in a snow-bound box car near Toumen, Siberia, during the Red Revolution, this twenty-two year old girl is now considered by ballet critics to be the greatest discovery since Anna Pavlowa.

TAMARA TOUMANOVA

Tamara Toumanova made her debut in motion pictures at Warner Bros. Studios where, with Leonide Massine, Alexandra Danilova, Miłada Mladova and other ballet stars, the famous Ballet Russe de Monte Carlo company productions "Capriccio Espagnol" ("Spanish Fiesta") and "Gaite Parisienne" ("The Gay Parisienne"), were filmed in Technicolor under the direction of Jean Negulesco, with Ernest Haller, as director of cinematography.

Although only 22 years of age, Toumanova is already considered by ballet critics to be the greatest discovery since Anna Pavlowa, many predicting that within two years she will have surpassed Pavlowa's finest technique as a ballerina.

While her mother, then a girl of 17, was fleeing from the Red Revolution, Toumanova was born in a box car, snowbound near Toumen, Siberia, March 2, 1919. After several desperate years of hunger and privation, they were able to secure passage on a steamer from Shanghai to France, finally locating in Paris where Toumanova's father, a former White Russian cavalry officer, had secured a position.

Before she was 6, Toumanova attracted much attention with her dancing and was offered a scholarship at the exclusive dancing school, Academie Michelet. There she came to the attention of the renowned Olga Preobrajenska, famous ballerina and favorite of the Czar, who encouraged the talented child to study art, music and drama, but above all to specialize in ballet in all of its classical forms. The great Preobrajenska, then the "first lady" of the ballet, next brought little Toumanova to the attention of Anna Pavlowa, who immediately insisted on Tamara's appearance with her at the Trocadero. The child's inspired dancing was the sensation of Paris and offers poured in from great international booking agencies. Pavlowa, however, advised her to decline all offers and continue studying, promising the child "some day you will be the greatest dancer the world has ever known!"

At the insistence of a powerful French newspaper syndicate, Tamara appeared at a series of performances at the beautiful Pais de Bouillon, Autenil, at one of which Premiere Poincare and other Cabinet ministers arranged for her to appear as one of the featured attractions at the League of Nations conferences at Geneva. The great French composer Maurice Ravel composed a ballet especially for Toumanova's appearance. Costly gifts were presented to her and she was acclaimed throughout the cultural centers of the Continent.

Returning to Paris, she appeared at the Paris Opera at the request of the French Government, remaining for two years as the show-stopper at each performance. Toumanova was the first ballerina ever recalled for encores by the audiences during the Opera season.

When she was 12, Col. W. de Basil organized a new ballet troupe with George Balanchine as director and Toumanova as the star. Balanchine created special ballets for her and after a record-breaking tour of the Continent, they went to England where Toumanova was received with great ovations at each performance and at the invitation of Her Majesty, gave command performances for the King and Queen of England and the Duke of York, the present King.

Toumanova apeared in Amercia for the first time in 1933 while on a world tour

(Continued on page 17)

Stills by Bert (Buddy) Longworth, Warner Bros.









Tamara Toumanova in "The Gay Parisian," Warner Bros. Technicolor Featuret starring the Ballet Russe de Monte Carlo.

SNAPPING THE STARS

By Gene Lester

The fan magazine photographer who hobnobs with the stars as they dine and play must produce pictures that have real story value



Arthur ("Dagwood") Lake and Gene Lester

"What a snap you guys've got. I'd like to be in your shoes!" was the comment an onlooker made to me at Grauman's Chinese Theatre the night of the premiere of "Yank in the R. A. F." Apparently this remark was brought about by the intimate manner in which we fan magazine photographers were associating with the stars who stood in the forecourt posing for us.

There were, among others, Tyrone Power with his beautiful wife, Annabella, the Henry Fondas, the Pat O'Briens, Ann Rutherford and Bob Stack. While thousands of autograph seekers were jamming the ropes to get at least a fast glimpse of their favorite players the photographers were shooting them and chatting with them on very friendly terms.

Granted, the job of a Hollywood photographer is a fascinating one. He does know most of the players personally; he hobnobs with them whenever possible; he visits their homes, takes trips with them, goes to their parties and follows them to night clubs. To almost every amateur photographer, his job is most enviable; but to the photographer himself it is really a job.

A few years ago, because of very little competition in the fan magazine field, the photographer would shoot any picture of a star, regardless of its story value. Today, with the average reader educated to the value of candid photography, since the inception of Life, Click, Look, etc., and with the increasing number of fan magazines available, the photographer must be on his toes.

A picture of Robert Taylor and Barbara Stanwyck sitting at a night club table looking at each other, means nothing. They must be doing something candid, obviously unaware that their picture is being taken. The picture must have story value and not just be "the Robert Taylors at Ciro's."

The studios try to help the fan magazine photographer as much as possible. They invite us on to the set—prepare special location trips—fly us to such far away points as the Grand Canyon, Salt Lake City, Death Valley and New Mexico. This establishes a new locale and provides the fan magazines with material they ordinarily could never get in and around Hollywood.

Warner Bros., especially should be congratulated on their trip ideas. For the world premiere of many of their 'A' pictures they send special trains bulging with movie players half-way across the United States to wherever the story of that particular picture might be centered.

These trips constitute a field day for the Hollywood photographer. On what might be very easily classed as a four or five day vacation, he shoots from 200 to 500 negatives. Most of the Hollywood photographers carry two or three cameras on these trips. The Speed Graphic is used for most of the key pictures but these are supplemented with negatives made on either the Rolleiflex or Contax, or both. I always carry three cameras and find that many of my best negatives come from the miniature size film

It is upon our return to Hollywood that our work really starts, for these negatives must all be developed, printed, edited and captioned then air-expressed to New York, all on the same day. Immediately after the pleasant but tiring trip and its ensuing darkroom work, we start on our nightly rounds of the clubs which keep us up four or five nights a week until 2 or 3 a.m.

You will gather from the preceding paragraphs that the Hollywood photographer must be a master of all types of cameras. This is imperative and it must be to the point where handling the equipment has become second nature so that you do not convey the idea to the stars that you have to set up cameras and lights, or go to a lot of trouble in getting the picture. The stars will gladly cooperate but posing as often as they do, they want the pictures taken quickly and with a minimum of bother to them. Here again I have found it advisable to use the miniature camera wherever possible.

Shooting rapid fire on the Contax I might make 36 exposures of, let's say, Barbara Stanwyck doing her hot dance sequences in "Ball of Fire." Naturally they cannot all be used but I do select the eight or ten best frames and enlarge them. My editor in New York selects the best one and that is the final picture which appears in Silver Screen.

Another example of "second nature" photography occurred during the shooting of "Boom Town." Spencer Tracy and Clark Gable had to fall face first into thick, gooey mud. For an hour before the shooting, workmen were digging up the dirt with plows on the back lot at Metro, men with hoses were undermining it with water as others with huge rakes were concocting the mixture that would grace the physiognomies of Metro's top-ranking stars.

There would be only one 'take.' No rehearsals, no retakes, just flop. Although it was a sunny day, scrims were used to kill the bright sunlight and give the set the appearance of a dull wintry day. The surrounding areas were bathed in beautiful California sunshine, yet this one area had the bleak appearance of a dismal, rainy day. It was even difficult to judge exposures. And then it happened. The resulting picture was a full page blow-up.

And so, on through hundreds of assignments to meet the requirements of one of the top-flight fan magazines like Silver Screen, whether it be Bette Davis's highly publicized pratt fall into the cactus of Death Valley, Jane Russell's movie debut in the heart of the Arizona Indian reservation, the sea voyage aboard the S. S. America for the premiere of Warner Brothers "Sea Wolf," or even the average assignments in Hollywood we must always be certain to 'GET THAT PICTURE!'

There is not one of us who will not claim that he has the most fascinating photographic job imaginable. Where else could a cameraman hobnob with such people as Lana Turner, Rita Hayworth, Betty Grable, etc. It can safely be said that the dream of every photographer is to photograph and know the movie stars.

But—on the other side of the scales—counteracting the fascination and glamour, are the late working hours, irregular eating habits and almost complete lack of social life. These tend to stress the fact that fan magazine photography IS a job.

Once again referring to the remark made in the forecourt of Grauman's Chinese Theater . . . the "shoes" are enviable, but the "snap" is only in the camera.













Starting top, left to right: The Dick Powells at home; Marlene Dietrich plays baseball with George Raft on location for "Manpower"; Betty Grabe takes a sun bath; Dick Powell and Joan Blondell at a Sunset Boulevard drive-in restaurant at 3 A.M.; Marlene Dietrich and Gene Lester; Fred MacMurray and Carole Lombard at a radio rehearsal for the Gulf Screen Guild Theatre (this must be covered every Sunday which is a work day just like any other with the movie magazine photographer).









It's a hilarious battle between a Shakespeare-reading sailor who suddenly finds himself the lady-killingest man in the fleet and the girl singer who never has been kissed.

Stills by C. Kenneth Lobben









Dorothy Lamour tops the list of feminine entertainers, with Betty Hutton and Cass Daly on hand, while Bill Holden, Eddie Bracken, Leif Erikson and Gil Lamb don navy uniforms.













Promising to be one of Producer Harry Sherman's biggest outdoor spectacles, "Tombstone" is the exciting story of a frontier marshal who employed his fists instead of guns to eliminate undemocratic practices. Behind the camera in upper left is Russell Harlan and with him are Guy Bennett, Earl Stafford and Junius Stout. Harlan has been filming these Westerns for seven or eight years. Before the camera are Richard Dix, Frances Gifford and Edgar Buchanan.



Lucille Ball assisted by Fern Emmett in dressing for her wedding day in this scene from RKO Radio's "Valley of the Sun."

TOTEMS of ALASKA

By Joseph Yolo

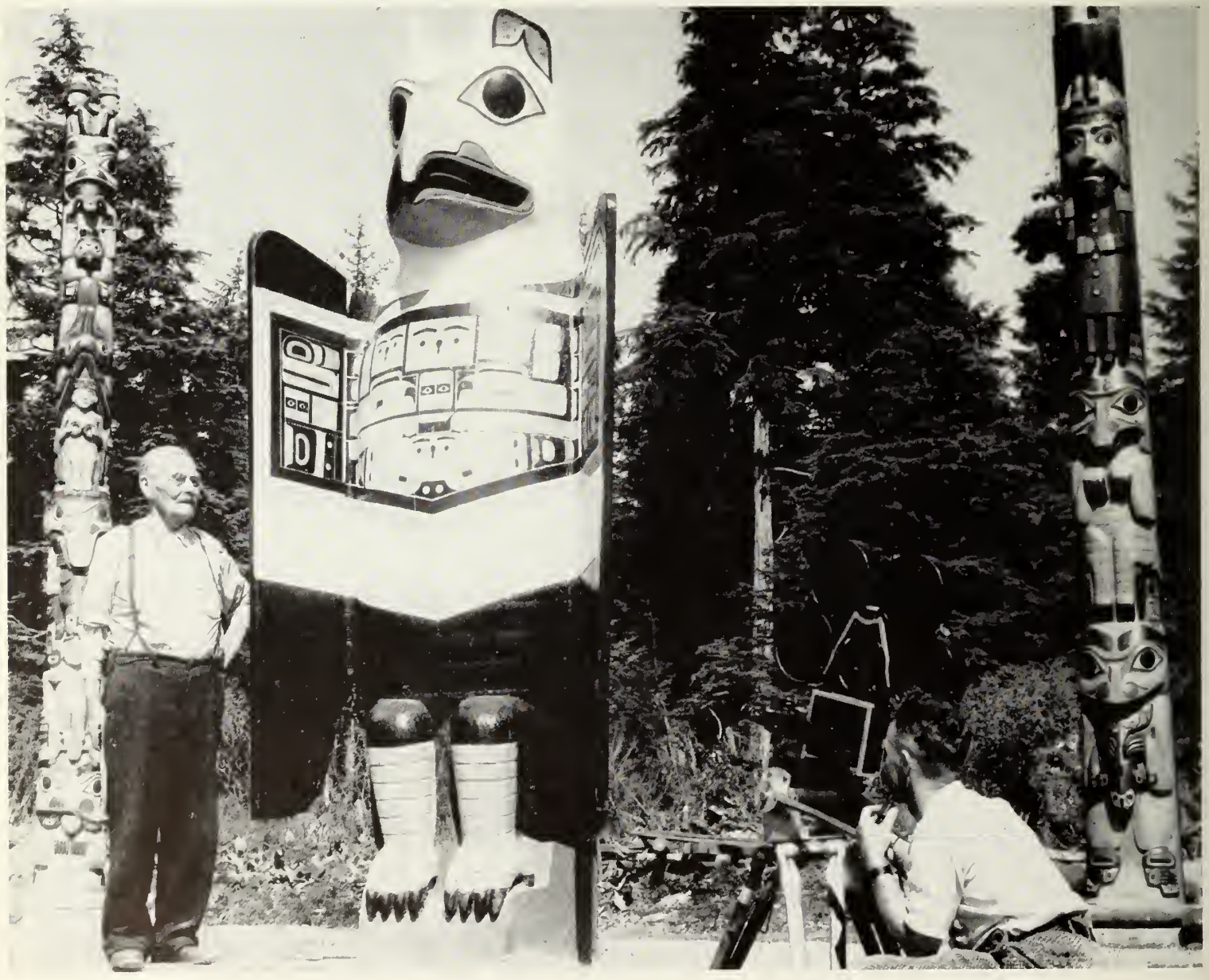
A few hours after arriving at Ketchikan, August 4th, on the SS. Yukon we sailed for the West Coast of Southern Alaska to make color motion pictures of Alaska natives, deserted Indian villages and tribal and family totems of the various Alaska Indian tribes. Any little bay, cove or Indian or fishing village is home as we cruise among the many islands and numerous waterways of the Alaska coast, aboard the "Ranger Nine."

Having spent the summers of '37 and '38 making motion pictures of Alaska scenery and glaciers and Alaska big game there was some doubt that totems would hold much interest. Our cruise of the past ten days is convincing, however, that the assignment to cover the totem story will be the most fascinating of them all.

Beyond the boundaries of Alaska Territory few know that the first statue of Abraham Lincoln was carved by the native Alaska Indians . . . the Abraham Lincoln totem now located at Saxman, near Ketchikan. Slave traffic once flourished among the Indian tribes of Alaska. About the time of the freeing of the negro slaves, the Indians of Southeast Alaska also set free their slaves. In commemoration a totem was carved, the surmounting figure being that of Abraham Lincoln, dressed in top hat and frock coat. The Indians had become acquainted with Abraham Lincoln through information brought them by the early traders.

Totems are not objects of worship by the members of the various Alaska Indian tribes. They are recordings of tribal and family history, and are also used as markers for the graves of the departed.

Before Alaska became a possession of the United States no native who was "Somebody" erected a totem without first placing in the excavation a tightly bound, living slave. If the tribesman were one



The New Howkan Eagle at Hydaburg, Alaska. Standing beside it is John Wallace, the Indian mentioned in the text, with Joseph Yolo behind camera "shooting" in Cinecolor.

of wealth or influence he could afford to sacrifice several slaves in his totem dedication ceremonies.

Until recently, totem carving was fast becoming a lost art, the younger generation of the Alaska natives having followed the ways of the white man. Hundreds of totems throughout Southeast Alaska were fallng into decay in the deserted Indian villages. A unique culture and the family and tribal historical records were about to go out of existence.

In 1938 the Alaska Forest Service, under direction of B. F. Heintzleman, Regional Forester, added totem restoration to its list of numerous activities, and made this work a CCC project. Today many native enrolees are learning totem carving, taught by the few surviving experienced carvers, some of whom are nearing the century mark in age.

When the Forest Service totem restoration project is completed, most of the totems in Southeast Alaska will have been restored or exact replicas made of those beyond repair. Not only is the Alaska Forest Service reviving the almost lost art of totem carving, but more important, it is preserving for all time the history of the Alaska Indian.

A number of totem parks located in various Indian villages and towns throughout Southeast Alaska have already been established. At Hydaburg the totem park contains twenty-two splendid totems of the Haida tribe . . . the most striking one being the New Howkan Eagle. This masterpiece is the creation of John Wallace, a full-blood Haida tribesman, over eighty years of age.

On our cruise we visited Old Howkan, a deserted Indian village, not far from Hydaburg. On Howkan's rocky beach still sits the Old Howkan Eagle, carved from Alaska Cedar over a century ago. His head is adorned with a living salmon-berry bush, and with gleaming eye he eternally watches the sea upon which the last of the Howkan Haida tribesmen sailed away almost a half century ago . . . never to return. Nearby, almost hidden in the dense underbrush, are the corner posts and roof beams of the tribal community house.

Once the home of over three hundred members of the war-like Haida tribe, who paddled their war canoes as far south as California, Howkan Village today is a picture of utter desoltion . . . as silent and lifeless as the empty Haida grave still faithfully guarded by a storm scarred grave totem . . . Old Howkan Eagle's only companion.

More Bicycles Than Ever

According to the figures of the United States Department of Commerce, production of bicycles in 1899 amounted to 1,182,691; in 1929 it dropped to 307,845, while in 1939 the figures jumped to 1,252,029.

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Stills by Fred Morgan



"THEY DIED WITH

"They Died With Their Boots On" is the screen story of the life of one of America's most unusual military figures from the time, 1857, he entered West Point until he died, magnificently and foolishly, at the Little Big Horn in Montana, June 25, 1876.

It is the story of George Armstrong Custer, presented by Warner Bros., directed by Rauol Walsh, co-starring Errol Flynn and Olivia de Havilland. The picture was 12 weeks, or three months, before the cameras, which were in charge of Bert Glennon.

Sixteen Sioux Indians from the Standing Rock agency, Fort Yates, North Dakota, were imported by Warner Bros. to appear in the film. Twelve of these men had never been off their reservation before, and their experiences as Ho
they will talk abo

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e Civil War and
Custer was in
7th Cavalry at
weep, action and

excitement than any similar scenes done before. One thousand horsemen appear in many of them. To obtain these, Warner Bros. had to tie up Southern California's entire supply of rental horses, and augment these with mounts from private stables from everywhere within a 50-mile radius of the studio.

Four separate locations were used in addition to some 50 sets on the studio stages. The company, according to transportation department records, travelled nearly 1,200 miles getting to and from the various scenes of action.

A 60-foot camera tower of welded tubular steel was built from which to photograph the Little Big Horn battle. Eight cameras caught the action. A replica of Fort



Lincoln, enclosed in a stockade covering five acres, was built from early photographs and used for less than a reel of the picture.

Almost as much as was spent for this huge set was expended on Olivia de Havilland's wardrobe: 15 changes of gown, done of the most costly fabrics in the lush fashions of the 1870's. For Beth Custer was a fashion leader of her day, even in the "wild" west with her soldier-husband.

One of Hollywood's largest dry-cleaning establishments went on a night shift basis during the time the major battle scenes for "They Died With Their Boots On" were being filmed. Often as many as 1,200 uniforms, torn and dusty after a day's work, had to be cleaned, mended, and made ready for 6:00 the next morning, when the rider-extras started parading through the studio gates.

Makeup department workers had to clean and renovate 500 to 600 long black wigs each night after the Indians, real and synthetic, had finished their day. It was an all-night job.

The picture sweeps through 19 years of Custer's life, covers much territory. Starting with West Point, it moves to Washington, Bull Run, Gettysburg, Monroe, Michigan, back to Washington, to Fort Lincoln, then to the Little Big Horn.

All of Hollywood's stunt men worked throughout the battle scenes, some of them earning as much as $250 a day for spectacular falls from galloping horses. Highest paid were the riders of their own horses who had trained their mounts to fall, play dead as though shot. As a contrast to the riders, not one animal was so much as scratched all during the hectic production.

TIN CAN SQUADRON

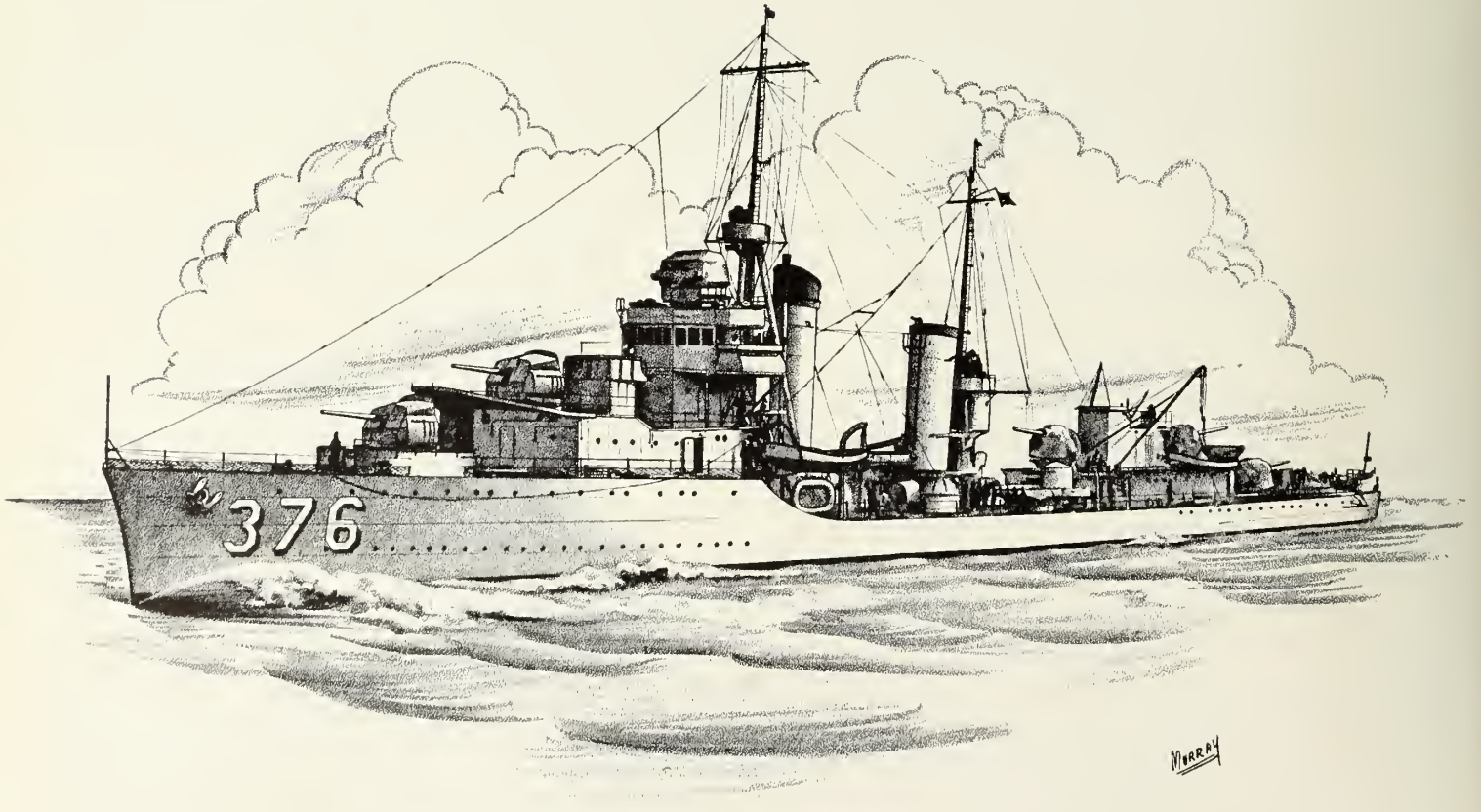
(Continued from page 3)

But there's the enemy fleet. We were being attacked by their air force and our AA battery was hard at work. More swell shots! It was like a three ringed circus. A sharp command can be heard now and swiftly the torpedo tubes swing out to firing position. Another signal is given and swish — the "tin fish" are off to accomplish their deadly mission. These are practice "fish" and lack the means to blow a ship out of water. Their accuracy, however, is unimpaired by the absence of the "business" part. The battleships seem awfully big now. We can see their secondary battery pumping away at us. The thought didn't occur to me then that I should be very thankful it wasn't "live" ammunition they were using. It has many times, since.

Another few minutes and our terrific speed had carried us beyond the line of fire of the "enemy" fleet. Our problem for the day was over and it was up to the umpires to tell us which side was victorious. Thus another Tactical Maneuver is completed, although to our modern Navy it was just another day's work—just another day of practicing for the day "when." For us it was a day of thrilling pictures. Our cameramen aboard one of the big battleships had filmed the maneuvers from the "defense" angle and we had some shots to delight the editor's heart.

But our work with the destroyer squadron was not yet finished. I learned that Uncle Sam's taxpayers are well protected even in times of National Emergency. Everyone of these precious torpedoes must be rescued, overhauled and made ready for the time when future occasion may require them. And so for many a weary hour we cruised back and forth over a pre-determined area scanning the bleak waters for our "tin fishes." It was a monotonous back-breaking job requiring many small boat launchings and precarious trips over a bouncing ocean to recover them.

Through the slick of an ocean suddenly turned tranquil, we of the Destroyer Squadron sailed homeward. That region of my body adjacent to the belt line had subsided with the angry waves and was now setting up a clamor for food. A most welcome sign to one who has been seasick. At the table that night the chair lashing was dispensed with although the table racks



DESTROYER - U. S. S. CUSHING

were kept in place just in case. It was a grand evening. Skillet entertained with some clever cartoons—others of the ward-room mess were equally jolly. Then all went below to see a movie—and don't forget the round-robin of 'rolling' to see who pays for the cokes. Just a group of swell fellows with a job to do—who get a great kick out of doing it RIGHT. Then an hour or so of soft serious discussion in the utter darkness of the topside and you suddenly realize that you're powerfully sleepy. You stumble below scarcely conscious that four bells is sounding in your ears. Four bells did I say?—that's Ten O'Clock, Mister Landlubber!

Glenn L. Dimmick of RCA Honored by S.M.P.E.

Glenn L. Dimmick, sound engineering expert at the RCA Laboratories, received the Progress Medal of the Society of Motion Picture Engineers in recognition of his outstanding contributions to the advancement of the motion picture art. Mr. Dimmick is the second RCA research engineer to be so honored, and follows Walt Disney on the Society's roll of medalists. Dr. E. W. Kellogg, of the RCA Laboratories, received the honor in 1936.

The presentation was made by Emery Huse, President of the Society, at the 50th Semi-Annual Banquet and Dance which marked the high point of the four-day convention which concluded October 13.

TOUMANOVA

(Continued from page 4)

which returned her again to England, France, Monaco and Spain. In 1937 she returned to the United States for a leading role in the stage production, "Stars In Your Eyes," with Ethel Merman and Jimmy Durante. Rejoining the de Basil ballet, she went to Australia for a year's engagement following which she again came to the United States, having determined to become an American citizen and make her home here.

She joined the Ballet Russe de Monte Carlo for its 1941-42 tour of the United States and Canada. Following her appearance before Warner Bros.' cameras, Toumanova is at present starring with the Ballet Russe de Monte Carlo in New York City for the season at the Metropolitan Opera House. The troupe is scheduled to return to Hollywood in January, at which time Warner Bros. plans to produce additional Technicolor films with this troupe. "Blue Danube" and "Prince Igor" are scheduled as their next motion picture productions and in both of these Toumanova will appear in featured roles.

UNITED STATES CIVIL SERVICE EXAMINATIONS

Head Photographer, $2,600 a year
Senior Photographer, $2,000 a year
Assistant Photographer, $1,620 a year
Under Photographer, $1,260 a year

Optional Branches

1. Dry-Plate Photography
2. Wet-Plate Photography

***Applications will be rated as soon as practicable after receipt at the Washington office of the United States Civil Service Commission until June 30, 1942,* and certification made as the needs of the service require. If sufficient eligibles are obtained, the receipt of applications may be closed before this date, in which case due notice will be given.**

NO WRITTEN EXAMINATION is required. Applicants will be rated on the length and quality of their experience. *Your application must include a complete and detailed description of your photographic experience.*

The Commission especially desires applications from photographers with experience in the following types of photography:—Wet Plate Photography, Process Photography, Photographic Mapping, General Commercial Photography.

The United States Civil Service Commission announces open competitive examinations for the positions named above. Vacancies in these positions in Washington, D. C., and in the field, and vacancies in positions requiring similar qualifications will be filled from these examinations, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. The salaries above are subject to a deduction of 3½ percent toward a retirement annuity.

Employment lists.—Separate lists of eligibles will be established in the optional branches indicated for each of the positions named above. These lists will be further subdivided according to the specialized experience shown by the applicants.

Positions of Junior Photographer at $1,440 a year will be filled from the register of Assistant Photographer by certification of the names of appropriate eligibles who express willingness to accept this salary. Positions of Photographer at $1,800 a year will be filled from the register of Senior Photographer by certification of the names of appropriate eligibles who express willingness to accept this salary. Positions of Principal Photographer at $2,300 a year will be filled from the register of Head Photographer by certification of the names of appropriate eligibles who express willingness to accept this salary.

Assignment of grade.—Applicants for the higher grades who are found not qualified therefor will be considered for the appropriate lower grades. Persons who are found eligible for the higher grades will also be rated for the appropriate lower grades if they have expressed a willingness to accept the lower salaries.

Applicants should indicate in their applications the lowest salary they are willing to accept.

Duties.—To perform any of the various operations involved in taking, developing, and printing photographs; in the higher grades to have the responsibility for the supervision of a photographic laboratory and the instruction of other photographers. The amount of responsibility and the degree of complexity of the duties will vary with the grade of the position.

Basis of ratings.—Competitors will not be required to report for examination at any place, but will be rated on the extent and quality of their experience, relevant to the duties of the position applied for, and on their fitness, on a scale of 100, such ratings being based upon competitors' sworn statements in their applications and upon corroborative evidence.

Statements concerning qualifications will be verified by the Commission; exaggeration or misstatement will be cause for disqualification.

APPLICANTS MUST POSSESS THE FOLLOWING QUALIFICATIONS

1. They must be citizens of the United States on the date of receipt of application. Foreign-born applicants who meet the citizenship requirements must furnish proof of United States citizenship before they will be eligible for appointment under civil-service rules.
2. For positions in the apportioned service at Washington, D. C., they must show legal or voting residence in the State or Territory claimed for at least 1 year next preceding the date of receipt of application.
3. **Experience.**—Except for the substitution provided for below, applicants must show, as a minimum, experience as follows.
   Head Photographer.—Six years of responsible, progressive, full-time (or an equivalent aggregate of part-time) paid experience in high-grade photographic work, at least 3 years of which must have been spent in one of the optional branches listed above, either (*a*) as supervisor of a photographic laboratory performing photographic work of more than ordinary difficulty and having the responsibility for the work of one or more assistants; or (*b*) as a photographer engaged in making photographs of subject matter

(Continued on page 27)

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PATENTS

By ROBERT W. FULWIDER, *Patent Attorney, Los Angeles*

No. 2,254,462 — METHOD OF CREATING DEPTH AND TEXTURE EFFECTS IN ANIMATED CARTOONS. *Mary Louise Weiser*, assignor to Walt Disney Productions, Los Angeles, Calif. Application November 21, 1939. 6 claims.

A cartoon cell having the illusion of depth created by painting an opaque picture on the back of one transparent sheet, and painting a partially translucent image on the front of a second transparent sheet which is placed over the first sheet.

No. 2,254,686—APPARATUS FOR PRODUCING ADDITIVE COLOR FILMS. *Adolf H. Kampfer* and *Albert Schattman*, Berlin, Germany. Application Oct. 4, 1938. In Germany Oct. 8, 1937. 1 claim.

A camera for taking additive color pictures on two separate bipack films exposed, by means of a beam splitter, through a single objecive.

No. 2,256,385 — PROJECTION PRINTER. *Ralph M. Evans* and *Benjamin E. Luboshez*, assignors to Eastman Kodak Co. Application August 7, 1940. 11 claims.

A projection printer for making a color print from a color transparency and having a viewing screen to view the projected image, and color filters interposable in the light path to change an overall hue to a natural hue.

No. 2,255,463 — TREATMENT BATH AND PROCESS FOR THE PRODUCTION OF COLORED PHOTOGRAPHIC PICTURES. *Bela Gaspar*, Hollywood, Calif., assignor to Chromogen, Inc. Application May 27, 1939. In Germany, May 30, 1938. 18 claims.

A dye destruction bath for locally destroying dye in the production of colored photographic pictures, the bath containing hydrohalic acid and hydroahalic acid salts.

Nos. 2,256,396 (14 claims) and 2,256,397 (11 claims) — PROJECTION PRINTER. *Benjamin E. Luboshez*, assignor to Eastman Kodak Co. Application August 7, 1940.

Projection printers having a horizontal gate for the negative film and a vertical gate for the positive.

No. 2,256,402—VARIABLE DENSITY SOUND RECORDING. *John H. McLeod* and *Otto Sandvik*, assignors to Eastman Kodak Co. Application April 9, 1940. 8 claims.

A variable density sound recording system in which the light is passed through a triangular aperture, and condenser lens, a mirror on which the condenser is focused, and additional lenses forming at least one aerial image before the light reaches the film.

No. 2,256,692—PROJECTION SCREEN FOR CINEMATOGRAPHY, TELEVISION, STEREOSCOPY, AND LIKE PURPOSES. *John Leslie Stableford*, London, England. Application September 3, 1940. In Great Britain August 31, 1939. 6 claims.

A projection screen having a highly polished metal surface covered with a large number of fine furrows in immediate juxtaposition and substantially imperceptible to the naked eye.

No. 2,257,182—FILM SPLICING DEVICE. *Roy C. McClay*, assignor to Warner Bros. Pictures, Inc. New York, N. Y. Application November 15, 1937. 4 claims.

A film scraping device having a wheel which may be moved across the film and rotated simultaneously by a rack and pinion to provide the scraping action.

No. 2,257,254—CINEMATOGRAPHIC APPARATUS. *Lloyed E. Whittaker*, assignor to Technicolor Motion Picture Corp. Application September 10, 1940. 13 claims.

A continuous printer in which the positive raw stock first comes in contact with the sound negative, is printed, and then leaves the sound negative, and then comes in contact with the picture negative, is printed and then leaves it, the carrier for the different films being an endless belt having sprocket teeth thereon.

Nos. 2,257,560 & 2,257,561

2,257,560—*Cecil No. Batsel*, assignor to Radio Corporation of America. Application Jan. 28, 1938. 4 claims.

2,257,561—*William A. Black*, assignor to Radio Corporation of America. Application July 26, 1938. 20 claims.

A device for blopping sound film by means of a shutter moving in the light beam of the film when a film splice passes by.

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"up high"

By Glenn R. Kershner

Leaning over the hand railing of a parallel on a sound stage, I looked down at the floor, watching the actors and what seemed a lot of confusion. A light was pushed here, another raised, diffusion dropped in one and some taken off another while the actors walked through their lines. The director must have been satisfied, for he nodded his head and turning to the cameraman said, "Let's make it."

"Hit 'em all," shouted the gaffer. Small remote switches clicked, larger ones in remote boards higher up clanked and the big set became all aglow in the soft light of the Inkies. The command "Hit your arcs" made me automatically flip the switch on my No. 170 High Intensity Arc. The carbons spat for a moment, then a bright shaft of light flooded a section of a great ballroom. Keeping my eye on the gaffer (the chief electrician), I watched him go to the center of the beam and measure the light with a meter. It was too bright. He had me flood the arc two turns and drop on a double net diffusion.

In a few minutes he tried several more arcs, seniors and juniors, in the same way. The key light and filling lights received the same attention before the cameras were started—all necessary in studio photography of today so that the laboratory with their developing machines running so many feet a minute can give the cameraman the effect for which he has been striving.

The working of that little light meter, the present lighting, and the many new lamps with their queer names, all so essential, is why I'm up here shirtless on this parallel with my gloves on, running these two big arcs that are as hot as boilers in an atmosphere that reads 103 degrees on my little thermometer. Sometimes I wonder why the roof doesn't catch fire. There are eighty-six men operating these arcs beside myself, and then there are all kinds of big incandescent lamps filling every little nook and corner. They tell me there is almost enough electricity being used to light a city of 10,000 people at dinner time, with their radios running.

To me this is all a thrill as I stand on this narrow parallel swung on chains from the top of the stage and with little more than hand-rails to hold to. I look at the various parallels of lamps, just like floors in a building, half naked men operating them, some sitting on chairs, others on diffusion boxes, while others are resting on spiders where the cables are coupled together and thousands of amperes passing within a few inches. Then I look down on the action on the floor where it is cool. Beautifully gowned girls, flowers, playful fountains of water, clinking glasses and laughter.

While doing this work I've met a great brotherhood of men, the electricians, who have been trained to this profession by years of hard work; to sweat, carry heavy loads and to work on narrow cat-walks where a misstep might spell disaster. They go quietly on their way and never are mentioned in the headlines, but without them and their efficient department heads the great industry of movie-land would be greatly handicapped.

To look up from the floor at the lamps and cables is one thing, but to be up high and look at the maze of cables of all sizes running in all directions over the parallels and beams, to know where they are going and how to put them there is another thing. I have always had great curiosity to know something first-handed about this, and during these two months when I have not been running an arc, I have been on the rigging crew, better known around the studio as the "iron gang"—and iron it is, no word better could fit it. It's WORK this getting a set ready to shoot.

When the carpenters, painters and paper hangers have finished, truck loads of cable and lamps are unloaded on the floor and men skin up into that maze of rafters and parallels like so many monkeys. Hand lines are dropped from the various stages of heights, blocks and tackle are pulled up and in no time at all several crews of men are pulling lamps weighing as much as five hundred pounds and more up high, where they are pulled in and fastened securely. Cables of all sizes are being dropped from the main switches high on the cat-walks directly under the roof. These reach down to the big switchboards that have just been pulled up. From these, cables run like spaghetti along the walks to spiders, where the lugs are clamped on.

Cables with plugging boxes on the ends are clamped on and pulled to places of advantage for plugging in the various lamps. More cables are dropped to the floor for the floor crew to plug in the lamps working below . . . but while all this has been going on, the boss rigger, having a prepared chart of where the cameraman wants the lights, has directed the stringing of the cables, placing the lamps and switchboards so that various groups of lamps will work at the same time from the remote boards so effects can be made instantly without changing the lamps or wiring. He also has worked out the vast load so it will always be equally distributed on the generators.

It would be impossible in the space allotted to tell what the juicer does, how he climbs dark ladders, pulls heavy hand lines, lugs loads, peeks through little dark glass windows at sputtering arcs to see that they are at the right angle so they will not whistle or howl and spoil the recording, or to stand on some parallel in the biting wind with only the heat of the lamp to warm him.

It's a rough and rugged life and the electrician plays his part in making the production a success. One thing I shall never forget is the time they took to show me all the things I wanted to know. The gaffers in every studio went out of their way to give me meter readings and the queer names of present lamps and equipment.

I have written books, drawn sets and built them, directed and photographed them, but never have I seen so much of real picture making as I have while watching it all go on from the high perch on a parallel.

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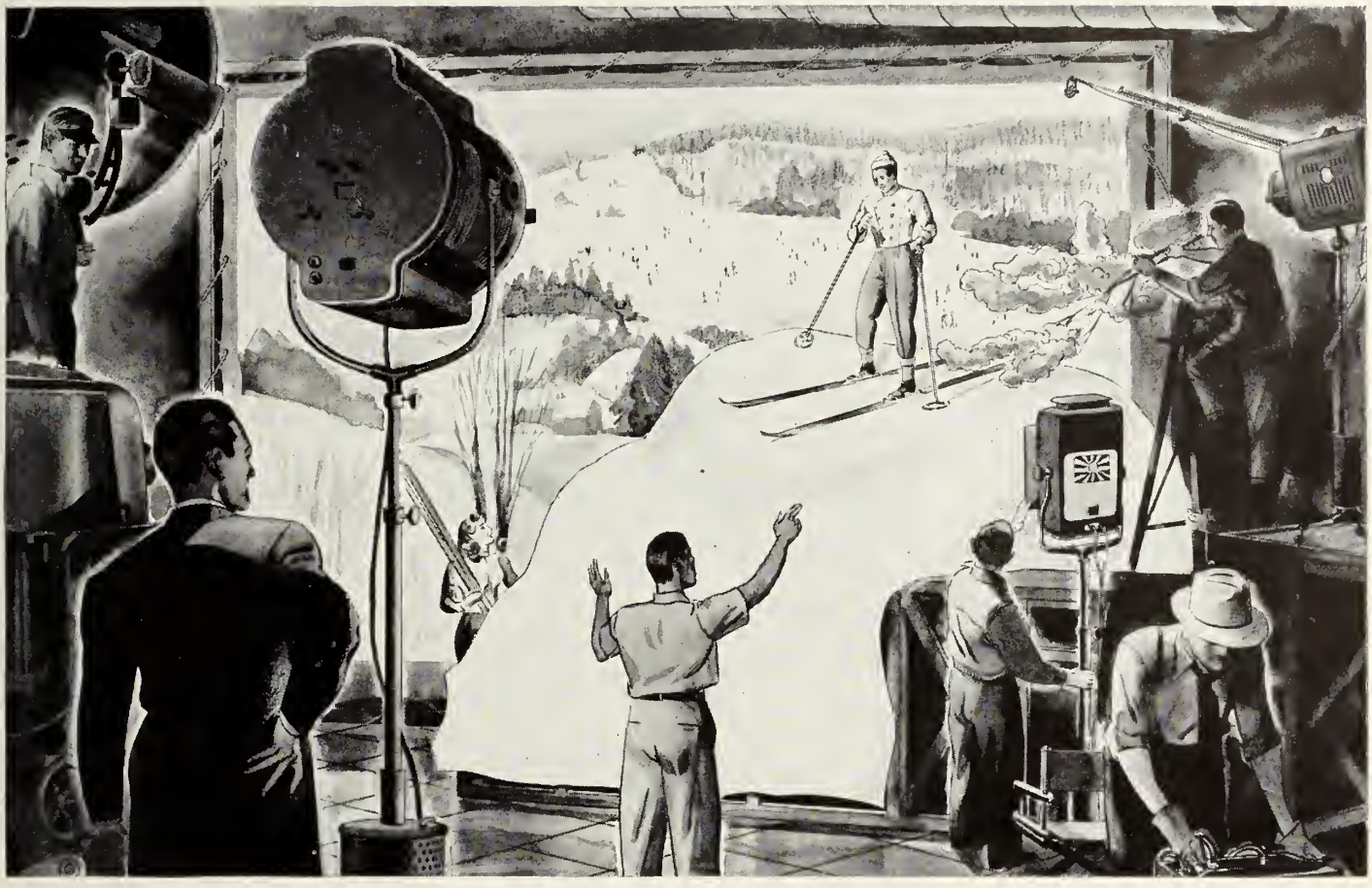
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TRADEWINDS

Super D Graflex Features Built-in Open Flash Synchronization

The Super D Graflex, previewed by August Conventionaires during the Trade Show in Chicago, features re-styled controls with chromium and black finish, plus a new and exclusive feature—*built-in open-synchronization*. Used with a Graflex Flashing Unit and lamps of the *SM* type, exposures in the neighborhood of 1/200 second are secured that are more than adequate for child portraits and most action pictures. And, thanks to the safety circuit, the lamp will not ignite unless the release lever that makes the picture is deliberately pressed down. With a 6⅜" Kodak Anastigmat f/4.5 the Super D Graflex is priced at $141.00.

Adding this new independence of lighting to the long-recognized advantages of parallax-free, ground-glass focusing and an erect image the full size of the negative, makes the Super D Graflex an even more valuable camera for all-around photography than its popular predecessor Series D.

Victor Arc Lamp Projector

A new Victor product—the Victor Model "E" High intensity Arc Lamp Projector—has just been announced by the Victor Animatograph Corporation of Davenport, Iowa. This model was especially designed by Victor engineers for heavy-duty service and to fulfill a demand for a projector that will produce ultra brilliance of screen images in large auditoriums and outdoor areas.

Complete unit consists of Projector, Sound Unit, Amplifier, Speakers (2), Arc Lamp, Rectifier and Projector Stand.

Literature containing complete specifications and features of this new projector is now available. Request Form No. 1052. Address Victor Animatograph Corporation, Davenport, Iowa.

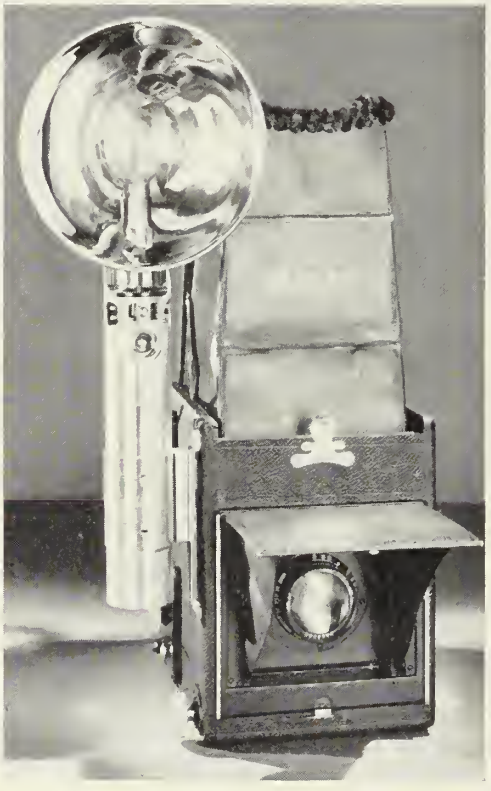
Fast Twin-eight Film

Twin-Eight Triple S Pan Reversible for users of Double-8mm cameras—has just been introduced by Agfa Ansco.

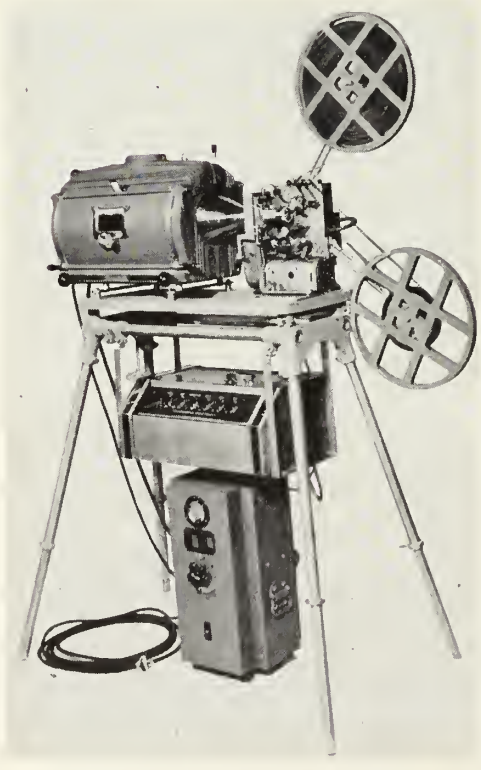
Three to four times faster than Twin-Eight Hypan, the new film will be welcomed by users of Double-8mm cameras for the greatly increased subject range it provides. Twin-Eight Triple S Pan can be used for both indoor and outdoor, day or night scenes, and is especially recommended for action shots or interiors where lighting conditions are unfavorable.

In addition to balanced panchromatic color sensitivity, the new material provides remarkably fine grain and brilliant gradation essential for superior 8mm projection work. Protection against halation is afforded by an exclusive brown silver-coating between the emulsion and the base, which is removed during processing. A special lavender-tint base aids in giving the film excellent projection quality. The new film offers wide latitude to compensate for inadvertent misjudgment of exposure as well as good resolving power to insure clear and sharp results.

Made by Agfa Ansco in Binghamton, New York. Twin-Eight Triple S Pan Reversible is supplied in 25-foot spools (50 feet of 8mm film), which may be processed at any authorized Agfa Ansco laboratory.



Super D Graflex with built-in open flash synchronization



Victor Arc Lamp Projector

Flash Bulb Prices Reduced

Welcome news to flash photographers are the new list price reductions in the Wabash Superflash line recently announced by Mr. A. M.Parker, President of Wabash Photolamp Corporation. Most important reduction is the new 11¢ list price of the midget bayonet base Press 25, dropped from 15¢. This teams the midget bulb with the smallest standard size flash bulb, the No. 0, as two 11¢ flash bulbs that have power and punch to cover almost 95% of the average amateur picture-taking requirements. In announcing the reduction, Mr. Parker commented that widespread popularity of the midget Press 25 and increased facilities for mass production made possible the new low price. Also reduced is the Blackout Superflash from 60¢ to 50¢ list. All reductions effective October 1, 1941.

A new Wabash Exposure Bulletin brought up-to-date as of October 1st, lists all of the new Wabash flash and flood bulbs for color, the new Blackout Superflash, and all other Wabash photolamps. Complete exposure data on their use with all available films for black and white and color flash photography, is included. The new Bulletin No. 740P can be had by writing the Wabash Photolamp Corp., Brooklyn, N. Y.

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Inventor Discusses "Increased Range" System of Motion Picture Photography

A revolution in motion picture photography that may produce an accompanying revolution in acting for the screen, with a corresponding increase in enjoyment for Mr. and Mrs. Average Movie Goer, was described before the 25th Anniversary Convention of the Society of Motion Picture Engineers at the Hotel Pennsylvania.

Dr. Alfred N. Goldsmith, noted inventor, told of his new "increased range" system of motion picture photography before a technical session of the convention which also devoted lengthy discussion periods to such other new developments as mobile television equipment for providing movie patrons with radio-pictures of notable events, color television, and development of new photocell equipment.

Dr. Goldsmith explained how his development permits actors to move about freely on a movie set without fear of moving out of camera focus, pointing out that the system removes the limitations of fixed focus which characterize every lens, substituting a virtually unlimited range.

"The human eye has this increased range." Dr. Goldsmith explained. "That's why in a theatre we can follow the actors all over the stage, from the footlights to the backdrop, without having them move out of the focal range of our eyes.

"The motion picture has been limited in this respect since its earliest days, for directors have been forced to keep their actors within the narrow focal range of the camera. Much has been lost in creating the illusion of true, flowing motion. Instead, we have had to substitute a succession of glimpses of the action."

Dr. Goldsmith's system automatically compensates for the fixed focus of the camera lens by lighting first the foreground, then the middle distance, and then the background of each scene each time a single exposure of the motion picture film is made. At the same time, the camera focus is kept in step with the lighting by means of a series of compensating plates revolving behind the lens. Thus, whichever part of the set is being photographed is in perfect focus.

"The action of the system is so rapid that the illumination may be divided into four or even more areas if necessary, although in many cases only two areas may be required," the inventor said. "For each complete single exposure of the moving film, the entire set has been lighted by stages, as it were."

He pointed out that with the new system actors would be freed from the present necessity of keeping within carefully marked bounds on the set, while directors would be spared the time-wasting work of meticulously measuring distances for every scene. Not only will actors be given new freedom of expression, but sets and scenes may be built with greater realism and true dimension.

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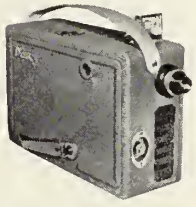
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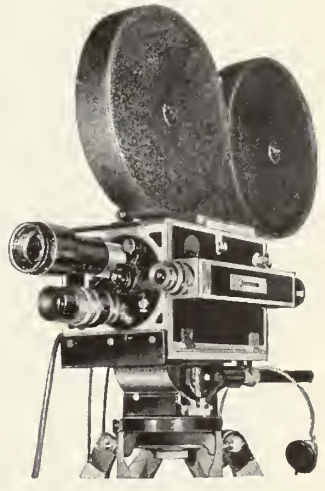


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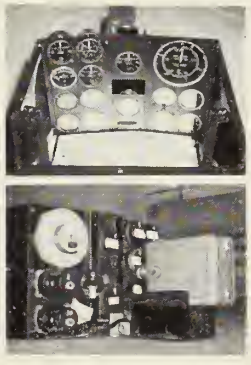
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16MM. DEPARTMENT

Light Meters—Their Use and Misuse

Amateurs reading this and expecting to be told what perfect pictures will result *just because they use a meter* to determine their exposure are going to be disappointed. Nothing could be further from the truth because the meter is *not* a robot, any more than is the camera itself. A good photo-electric exposure meter *is* an accurate instrument for the purpose of measuring the intensity of the light and computing the exposure, but *because* of its high order of accuracy it must be used intelligently, and with a full understanding of the processes involved. It must be emphasized that merely aiming a meter in the general direction of the object we wish to photograph will not result in a perfect exposure, even if we take into consideration the correct values for the film speed.

To begin with, let us determine what, exactly, is a "correct" exposure. Actually, there are several "correct" exposures for any one object, and we may consider the several successive values to be called the *latitude* of the film. They vary with the type of the film used, and the amount of development given that particular film. Below the lowest value of this latitude we have under-exposure; and above the highest value permissible in the latitude we have over-exposure. In sensitometric parlance, latitude is the region of normal exposure, and now that we glance back upon it—that probably would have been the best definition in the first place!

To determine what this region of normal exposure is, a series of tests are made in the lab, called sensitometric strips, which are a series of exposures increasing from a very low value to a very high one, in a logarithmic progression. When these strips are developed to a specified value they are placed in an instrument capable of measuring the density of each of these steps of different exposure on the strips by means of the amount of light passing through the film—called a densitometer. These densitometer readings are plotted on a graph as the ordinates against the logarithms of exposure as the absiccas. A "curve" results—which is curved on the top and the bottom, with a *straight line connecting them*, in the middle. *It is this straight line that represents the region of normal exposure for that particular film developed in the given amount of time*, or the line that represents the latitude of the film. *Along this line*, any increase of exposure causes a *proportionate* increase in density. If our exposures go into the upper curve, or the "shoulder," the increase in density is *not* proportionate with the exposure, and a distortion in the contrasts results. The same holds true in the lower curve, or the "toe." If we take a scene where all the principal objects are within the range of exposures represented by this straight line, the contrast of tones is faithful to the scene in reality. But, if we place our exposure either too high or too low on this line then some of the highlights will go into the "shoulder" if we are on the high end of the scale, or some of the shadows will go into the "toe" if we are too low on the low end. It becomes, then, a problem of placing our exposures in such a position on the scale that the highlights stay below the "shoulder," while the shadows stay above the "toe." And here is where the meter comes in.

In our opinion, the two meters on the market that represent a very high order of accuracy are the General Electric and the Weston. Both of them utilize a photo electric cell to measure the intensity of the light, and in both cases this light is translated into electrical energy, which minute quantity is measured by a very sensitive meter. The stronger the light, the stronger the electrical current generated by the cell, and hence the higher the reading on the scale. But here is where their similarity stops. Primarily designed for reading reflected light—the light reflected from the subject—its scale is calibrated in *candles per square foot*—*the unit of brightness*. Since the scale of the Weston meter is a logarithmic one, there is one big advantage and one big disadvantage. The advantage lies in that the calculator is arithmetical, and hence very easy to read. Added to that, the entire sensitometric curve is practically laid out on the calculator, and if the development factor is known it is possible to place the exposure at any *predetermined* point on the straight line portion, or the region of normal exposure. We can *predetermine* the density of the developed negative. And make *sure* that none of our highlights (except catchlights, or "kicklights") go outside of the normal exposure reigon on the high side, nor any of the shadows on the low side. The disadvantage lies in the fact that since the scale is a logarithmic one, any errors made in the *reading* of the meter—of the light portion of it—will be logarithmic, and hence show up as serious errors.

In the General Electric the scale is an arithmetical one, the unit of mensuration being the foot-candle. Here a slight error in the evaluation of the light is an arithmetical error, and as such will not show up as gravely—but the calculator is logarithmic, and as such a little more difficult to read. In this calculator we do not have the sensitometric curve spread out before us as we do on the Weston calculator. But there is an advantage the General Electric meter has which is not found with the Weston.

The General Electric has been designed primarily for *incident light readings*—the measuring of the intensity of the light itself, rather than the light reflected from the object. In this method the meter is pointed *toward the camera*, with the light falling upon the sensitive cell in the same manner it falls upon the subject. It is to be remembered that light striking an object at an angle will appear to have a lesser intensity than light striking perpendicularly, so for this reason it is important to measure the light as the camera will see it. While the General Electric meter has been adapted to read incident light only up to 70 foot-candles—from there on they go into the reflected light method—it is possible to secure a multiplier which fits over the sensitive cell and lets only 10% of the light reach the sensitive surface. This raises the 70 foot-candle scale to a 700 *foot-candle* scale. A tip to those using this method: The calculator on this meter only provides for the 70 foot-candle scale for use with the incident light readings. If you wish to use the calculator with the multiplier, then, instead of taking 1/50 of a second—if that is the speed you wish to use—on the calculator, take 1/5. And use the "*Dim Light Arrow*." What is being done in effect is to multiply the calculator by ten in the same

(Continued on page 27)

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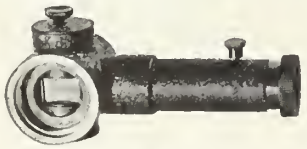
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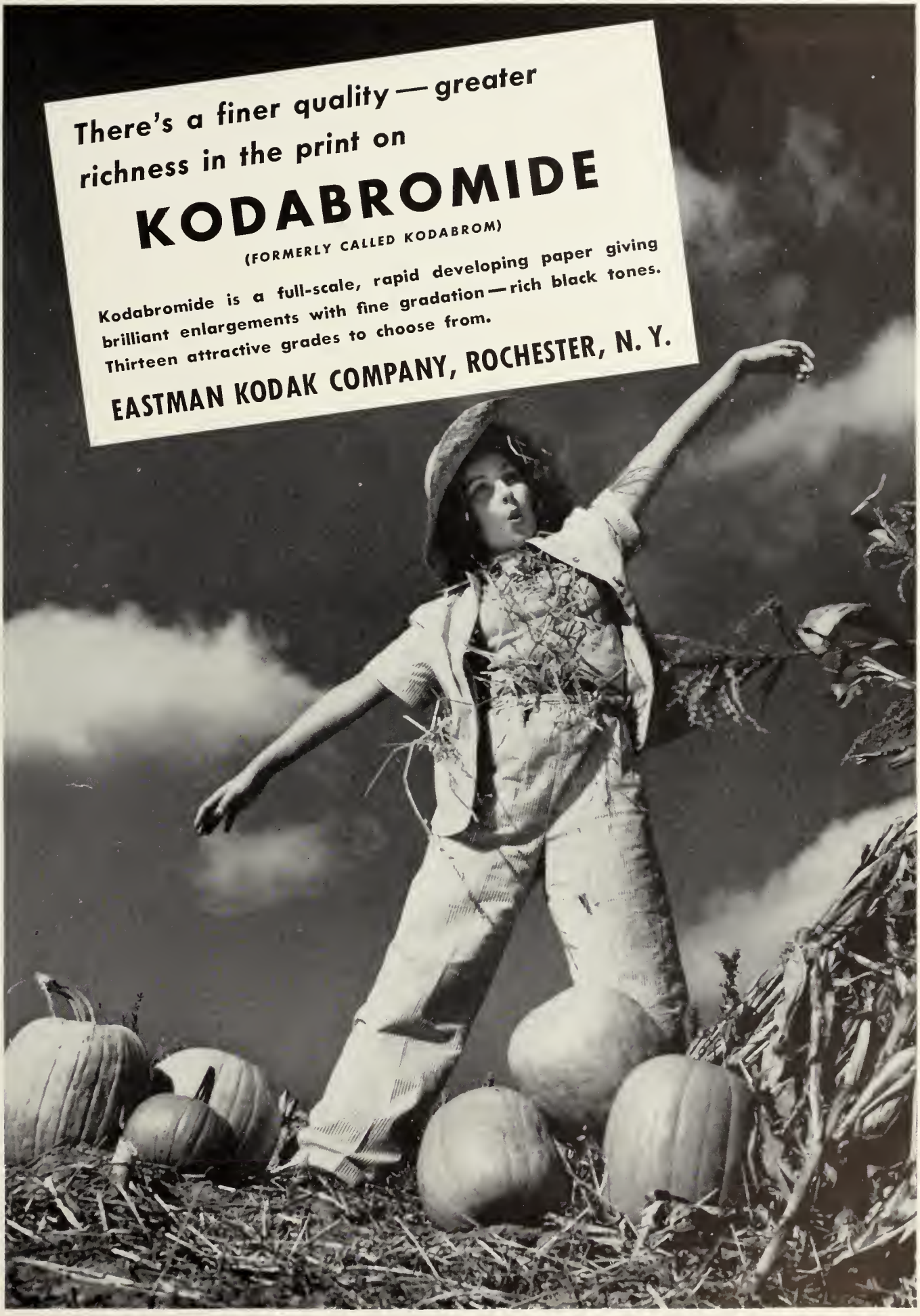
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TELEVISION



Du Monte Mobile television equipment, comprising the camera, camera controls and synchronizing-signal generator, shading control and monitor, power supply and other units, all capable of being packed into an ordinary automobile.

Television Pickup Equipment In Units and Chains

Breaking down the intricate mass of television pickup equipment into the various functional categories, translated into individual units which in turn connect and work together to form a chain for given video broadcasting requirements, Du Mont engineers have vastly simplified television studio and remote pickup equipment. Indeed, it is now feasible to obtain just the units required for given video program work, while the flexibility of the chain permits the addition or substitution of units at any time as changing conditions may dictate. The interchangeability of some units, plus the fact that the exact same units are available for both studio and outside usage, spells minimum investment for the telecaster.

Both direct camera pickup and film pickup requirements are covered by the units and chains. The chains may be single- or dual-camera chains. The same units can be arranged in a wide variety of combinations to take care of varying conditions and changing needs. The units are housed in attractive individual metal cases, with carrying handles and removable front covers exposing the panels for operation. They connect together by flexible cables, plugs and receptacles. The units may be placed on tables or shelves for studio pickup, or packed in a car for outside or remote pickup use. This dual function is highly important, particularly to the small telecaster who wishes to minimize his investment.

The single iconoscope camera chain comprises twelve units, namely, the iconoscope camera mounted on its tripod, the camera supply power unit, the electronic view finder, the view finder supply unit, the iconoscope camera control unit, the camera control power supply unit, the shading generator and monitor oscillograph, the camera monitor and supply unit, the line amplifier, switching unit and monitor oscillograph. This chain feeds directly into the transmitter and the 12-inch station monitor, or, when used for remote pickup, into the ultra-high-frequency transmitter.

A dual camera chain calls for two cameras, each with its camera power supply, electronic view finder, and view finder supply units, working in conjunction with their individual camera control, camera control power supply, camera monitor, and camera monitor supply units, both chains working directly with line amplifier, switching unit and monitor oscillograph, line amplifier power supply, line monitor supply, synchronizing generator and line monitor, feeding into transmitter and station monitor, or ultra-high-frequency relay transmitter.

The Du Mont engineers have built for telecasters a dual film pickup camera chain, which included two camera scanning units picking up movie images projected by movie projectors, and 41 associated units. Since each equipment is for studio or stationary use, the units are permanently mounted in racks with a sloping panel desk at which sit the operators who monitor the images appearing before them on 12-inch screens, with the further guidance of oscillograph signal patterns.

The units are made to a uniform cabinet design, finished in crackeled gray with chrome trim. Each unit is fully portable. Its panel and controls are protected by a removable cover. Connections are facilitated by cables, plugs and receptacles, fully keyed to insure correct connections. The basic power supply is the usual 115-volt 60-cycle AC line. An adequacy of controls and cathode-ray screen monitors provides for proper control and supervision at every stage in the long and intricate successions of functions from camera to transmitter. In the usual pickup routine only two operators are required, namely, the camera operator who aims the lens and keeps it on the subject, with due regard for field, action and focus, and the monitor operator at the



The electronic view finder with cover removed to show working details. The cameraman knows precisely what he is getting and what he is passing on to his audience.

camera monitor who follows the video images and makes adjustments for lights and shadows and contrast, and who also checks on the supply units and line amplifier. The recent introduction of the Du Mont electronic view finder greatly facilitates the operation of the television camera, since the cameraman now sees precisely what he is picking up in video terms, instead of in the optical terms of the usual better use of available lighting, since he immediately sees the video results, and can often correct for excessive lights or shadows and contrast, although the corrections are made by the second operator at the camera monitor controls a few feet away.

The single camera chain units readily pack into a sedan automobile and can be handled by two men. For radio relay work, of course, there must be the ultra-high-frequency transmitter providing the radio link with home studio and transmitter. If sound is included in the pickup, then of course there must be a separate setup for audio, including microphones, amplifiers, monitors and the audio transmitter.

(Continued from page 17)

requiring a high degree of technical skill, involving the use of modern, specialized photographic equipment, and demonstrating unquestionably the applicant's ability to handle successfully extremely difficult problems in photography; or (*c*) any time-equivalent combination of (*a*) and (*b*).

Senior Photographer.—Four years of responsible, progressive, full-time (or an equivalent aggregate of part-time) paid experience in high-grade photographic work, at least 1 year of which must have been spent in one of the optional branches listed above and which must have demonstrated the applicant's ability to perform successfully photographic work of more than average difficulty.

Assistant Photographer.—Two years of progressive, full-time (or an equivalent aggregate part-time) paid experience in high-grade photographic work, at least 6 months of which must have been spent in one of the optional branches listed above.

Under Photographer.—Six months of full-time (or an equivalent aggregate of part-time) paid experience in photographic work, or in work involving photographic processes such as photostating, multilith plate-making, and similar work of equal value.

Substitution of education for experience.—For not more than 1 year of the experience prescribed for Senior and Assistant Photographer and for the 6 months of the prescribed experience for Under Photographer, applicants may substitute study successfully completed in a resident school of photography. Twenty hours spent in school work will be considered equivalent to 1 week of paid experience. Applicants who wish to substitute education for experience must state in their applications the number of hours spent in school work.

Experience acquired as an amateur or in the pursuit of photography as a hobby will not be accepted as qualifying for any grade.

There are other qualifications as to physical ability, etc. Complete information may be secured from Secretary, Board of United States Civil Service Examiners at any first or second-class post office.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of International Photographer, published monthly at Los Angeles for October, 1941.

State of California } ss.
County of Los Angeles }

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared Helen Boyce, who, having been duly sworn according to law, deposes and says that she is the Business Manager of the International Photographer, and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, International Photographer, Los Angeles, California. Editor, Herbert Aller, Los Angeles, California. Managing Editor, Herbert Aller, Los Angeles, California. Business Manager, Helen Boyce, Los Angeles, California.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) International Photographers, Local 659, International Alliance of Theatrical Stage Employes and Moving Picture Machine Operators of the United States and Canada, 6461 Sunset Blvd., Hollywood, California. President, Gustav C. Peterson; 1st Vice-President, Ed Estabrook; 2nd Vice-President, Leon Shamroy; Financial Secretary-Treasurer, Ernest Bachrach; Recording Secretary, James V. King; Sergeant-at-Arms, Len Powers.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securties than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is. (This information is required from daily publications only.)

HELEN BOYCE. Business Manager
(Signature of editor, publisher, business manager, or owner.)

Sworn to and subscribed before me this 30th day of September, 1941.

BEATRICE NOYES, Notary Public
(My commission expires April 19, 1943)

(Seal)

16MM.

(Continued from page 24)

fashion the scale is being multiplied by ten by the shield placed over the cell—which admits only 1/10 of the available light.

With all this discussion about the underlying facts nothing as yet has been said about the actual use of the meter itself—and this is really what we are trying to get at, but which would have been meaningless without the understanding of the above facts. To aim a meter in the general direction of the object we wish to photograph we get an *average* of all the light being reflected from the scene. If we include too much sky, then the readings will be inflated by the higher reading of a normal sky. (Unless it happens to be one of those *very deep blue ones*). If we take a reading of a scene and point the meter too far down, and we happen to have some dark colored foreground we will find the resulting exposures too high. *The most accurate method is to take a reading of the highest highlight, and then of the deepest shadow in which we wish to have detail, and then expose for a point mid-way between them.* Another method is to take a reading of the palm of the hand, with the hand perpendicular to the ground. The flesh tone is a neutral color, and can be assumed to represent a point we are seeking.

In using the General Electric meter with the incident light method, consistently uniform negatives will result if a definite exposure is decided upon, and then the lights adjusted to give the reading in foot-candles on the scale which is indicated by the calculator to be necessary for the correct exposure.

They Say···

By RELLA

● Sol Polito assigned to work with the great director, Capra. This is the first time the two countrymen have worked together.

● Mike McGreal, head of the Warner Bros. camera department, has enlarged various sections of the still department and has promoted a service for newspapers whereby they can develop and print a negative in twenty minutes.

● "Buddy" Longworth and Ben Goldman suspected of hoarding a large quantity of "home brew." The other day while making Christmas shots for one of the newspapers, two gross of gas filled balloons, which were part of the props, started to explode. Buddy and Ben are still trying to explain it wasn't just a celebration of their two years together at Warner Bros.

● "Scotty" Welbourne is one of the "glamour" cameramen in the industry, having just signed a new contract with Warner Bros.

● Jack Wood, formerly with 20th Century Fox now stillman at Warner Bros. First assignment to Texas.

● Cards being issued to preview eight and a half pound baby boy, son of Mr. and Mrs. Wally Meinardus.

● Bob Hager, now an ensign in the Naval Air Force, is in town.

● Fred Anderson with Aircraft Fleet and Scouting Force writes from North Island, California. Enthusiastic about the station and his work but expects to be moved soon.

● Irving Smith of Local 644 is a 1st Lieutenant in he Army, at Fort Monmouth, N. J.

● Richard Seers of Local 644 now in Washington, D. C. as a major in the army.

● Roy Seawright, Hal Roach Studios, is councilman and police commissioner at Hermosa Beach.

● Norman Alley has returned from Louisiana to his New York post. While watching army maneuvers at Louisiana, Alley concluded that our army would be second to none in the near future.

● Mr. and Mrs. Monty Crail introducing baby son.

● Mr. and Mrs. John McCormick displaying new baby girl.

● Mr. and Mrs. George Russell receiving congratulations on a boy.

● The Benjamin Kline's packing up to move into their new home.

● Franz Planers starting to build a new home.

● Eddie Cronenweth back from duck shooting at Bishop. Eddie had nearly a perfect score—only one short of the limit.

● Matt Klucznik, Bert Eason, Kyme Mead, Ray Ramsay and Jack Smith back from location in Louisiana where they have spent about six weeks.

● George, Jr. is the name of the new Diskant heir.

● Willard Barth back from six weeks' trip in Canada.

● Eddie Pyle's bowling hasn't improved.

● Harold Wellman in Mexico City with Floyd Crosby.



Abbott and Costello right up among 'em during filming of "Ride 'Em, Cowboy," Universal Production. Reading left to right, standing on camera crane: Lou Costello, Bud Abbott, John Boyle, Jack Young, with Director Arthur Lubin kneeling (not often a director is caught in that position.) Standing in center on the ground are Walter Blumel and Gil Valle, assistant director. At top of right hand crane are Ed Cohen and Harold Graham, while sitting below are Johnnie Martin and Mark Marlett. Still by Sherman Clark.

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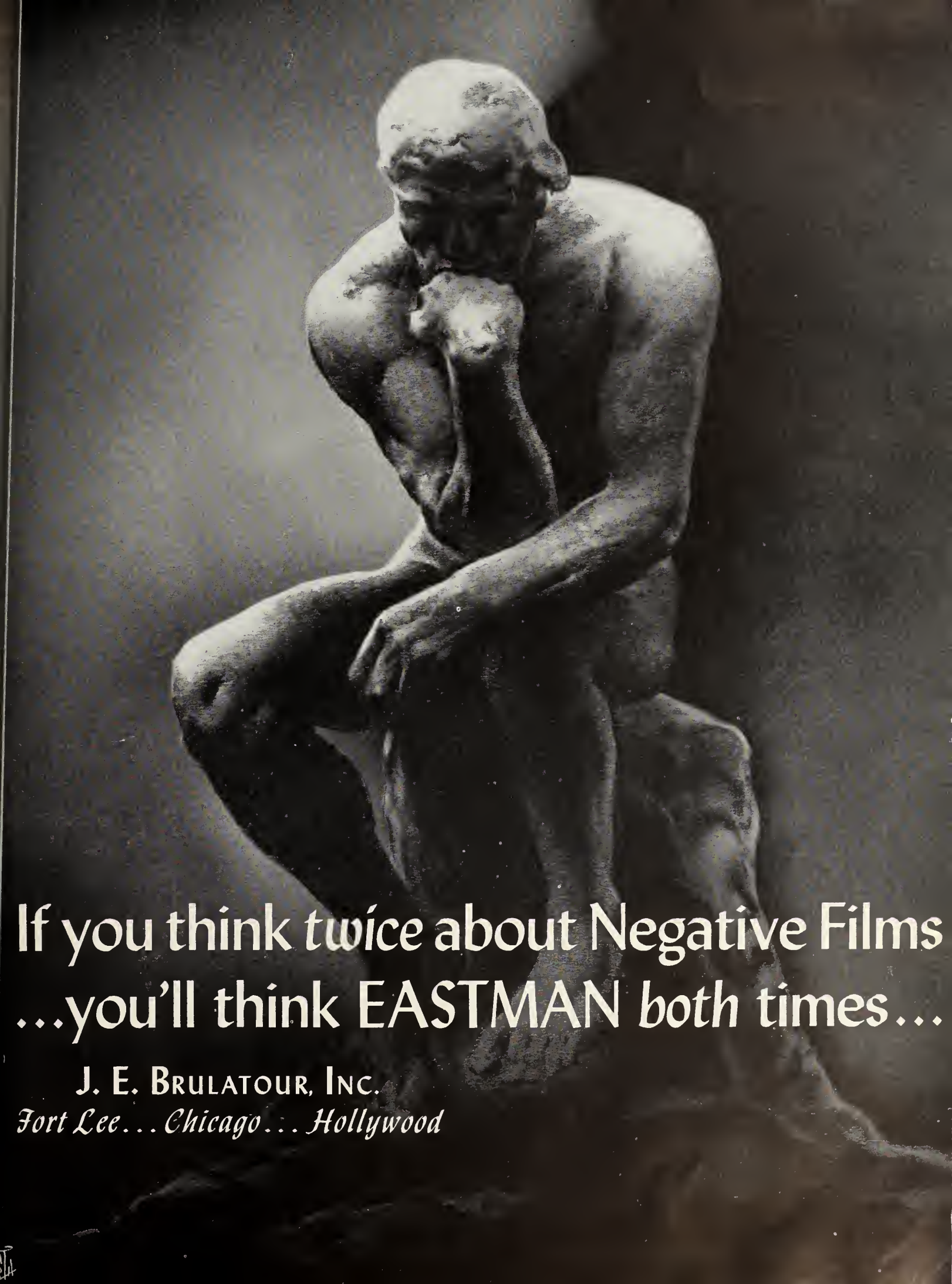
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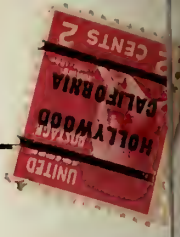
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Vol. XIII **December, 1941** **No. 11**

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Forestry Photo Contest

Preparing in advance for a long range campaign to save Southern California's forests from fire, the Los Angeles Chamber of Commerce and the Conservation Association of Southern California today announced a photographic contest on forestry subjects with a total of $50 cash prizes.

"We need pictures of camping, fishing and other forms of outdoor recreation for use in illustrating the material to be used in next summer's campaign," W. S. Rosecrans, Chamber conservation chairman and president of the Conservation Association, announced.

"First prize will be $25. Second prize will be $10. There will be three $5 prizes. Here is a chance to win a cash prize and at the same time contribute to a campaign in which every recreationist is interested—protection from fire of our great out-of-doors."

Contest rules are:

Contest is open to all.

Photographs must be not less than postcard size, preferably eight by ten inches.

Photographs must be on paper with glossy finish.

Photographer's name and address must be on back of each picture.

Contestants may submit any number of pictures.

Negatives of prize-winning pictures must be furnished to the sponsor.

All photographs entered in the contest will become the property of the Los Angeles Chamber of Commerce.

Photographs should be sent to George Cecil, Los Angeles Chamber of Commerce.

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111 I.P.E.U.
BROWN-CALDWELL



Wilma

By William Mortensen

In a unique experimental attempt, William Mortensen will do a series of pictures appearing on this page all with the same model, lovely seventeen-year old Wilma. She is a Salt Lake City girl who is being groomed at the Mortensen School of Photography. In this series Mr. Mortensen will depict such types as an aged oriental philosopher, a buxom Polish peasant, a conniving Spanish courtesan, a modern sophisticated glamour girl, and numerous other studies, posed by this same young woman. He will utilize such expedients as extreme character make-up with collodian, various costume elements, props, and the illusion of light to create this effect. This is the first of the series.

ducks and geese,--unlimited

By Chalmer D. Sinkey

Wild Geese versus Wild Newsreel Cameramen

Well, anyhow,—this is a story of a Happy Hunting Ground—a ground that stretches through a great valley of ancient, crumbling lava.

According to geologists,—the ground was here ages ago,—way back through those eons of time that preceded our most ancient written history.

Later on,—migrations of wild ducks and geese got themselves organized and made the same long journies from North to South and vice versa,—that they are making today. In the course of their ancient migrations they paused at this valley for a stop-over. In fact, this valley was a major resting spot on one of the four major flight lanes of the earth's migratory birds.

In those days the valley was a huge, expansive lake, already settled and fringed with tulies, while surrounding volcanoes were spouting red lava and mountain ranges were being pushed into being.

Of course no one that we know of was on hand to record the events, but we surmise that Tule Lake must have been a very enticing spot for after all of these centuries the geese and ducks have never wavered from their established rendezvous.

When the tang of fall is in the air they descend upon the Happy Hunting Ground like swarms of insects on a gusty breeze.

All of which proves that a goose is a persistant fellow else the changes that time has brought to Tule Lake, would surely have made him change his itinerary long ere this.

In the first place, along about the time that the volcanoes were nicely calmed down and the earth took on a habitable form, a mysterious tribe evolved from somewhere. They pitched their dwellings on the shores of ancient Tule Lake and left a rich store of relics to challenge our imaginations.

Well covered by the shifting dust, are stone pestals and mortars that once ground grain. Clean-cut obsidian arrow heads are sprinkled throughout the valley; crude, undeciphered picture writing makes wierd murals on the rotting lava walls, and forgotten burial grounds are unearthed as the sands travel imperceptibly to and fro in their painstaking cycles of erosion.

Just as mysteriously as they came, these people disappeared, and we presume that a few more ages passed by.

Later, when the white man pushed his way westward, stopping at the tule-fringed lake, he found it peopled with redskins, who were destined to be well known on the pages of our written history as the Modocs.

Long and furious were the battles between the pioneers and the tribesmen, but when the smoke of battle rolled away, the Happy Hunting Ground was lost to the Redman.

Then came the greatest blow of all to migratory flocks. The Happy Valley did not suit the white man, so he set about to change it.

He set into motion the wheels of a great reclamation project and the vast, shallow lake, once a wealth of marsh-food, was drained into miles of pungent, dusty waste. A small section of the water was left diked up in the center of the area, eventually to irrigate these same wastes.

Finally, cabins of settlers dotted the desert-like reaches, and with the settlers came a miracle; a miracle that converted the barren ground into wheat-fields, unbelievably rich wheatfields that yielded between 40 to 60 bushels of grain per acre.

Now, the Happy Hunting Ground must have looked strange to the migrating hordes of birds, with automobiles racing across countless miles of tumble-weeded dikes, and guns and dogs booming at them when they settled down to find themselves some food. Yet the ducks and geese have never wavered, and because they still come like chaff from the sky, the U. S. Government has taken a hand to protect them.

Under jurisdiction of the Biological Survey (now known as the Bureau of Fish and Wild Life) a large game refuge is maintained in the heart of the ancient valley.

Here they build artificial nesting grounds, guard against poachers, care for sick birds and plant food that will help them to exist.

Then, once each year, at shooting season, the refuge is thrown open to hunters.

The spot has become a mecca for nimrods. Thousands of them gather for the opening day, and few leave without their full bag limits of birds.

All of which brings us to the newsreel cameramen.

"An intriguing thought," thinks the editor, "is the sight of hordes of migratory wild fowl darkening the sky, literally blotting out the landscape."

But a wild task indeed, is the capturing of this picture on film.

This is where the wild cameramen come in versus the wild geese.

Suffice it to say, that while the birds are there, you do not merely run out, point your camera here and there and call it a day.

There are various and sundry problems, such as: What film to use? How to allow for the grey, crumbling landscape and yet do justice to the brilliant sky that seems eternally filtered by a blanket of dust?

Other inconveniences are a lack of safe drinking water,—no accommodations at the local hotels which are all booked up by hunters.



Movietone's cameraman moves in for a close-up,— but finds to his dismay that his goose is a pelican.

The geese themselves are downright inconsiderate. They fly when you are not expecting them to, and fail to fly when you do.

If you sneak upon them at their feeding spots, they have wise old sentinels that do nothing but watch you, and the minute they calculate that your camera is in range, —WHOOF! they are off like a swarm of bees.

In the heat of the day, they swim placidly on the water, masses of them that look like a mammoth oriental rug,—but, they manage to keep just out of range of your best lenses, and no amount of yelling, nor gesticulating will stir them into flight until they are ready to take off.

After traipsing along nettle-strewn dikes all day, reconnoitering for good "angles" you dream about them all night, and lay awake to think up ways and means of outwitting a wild goose.

The most tantalizing scene of all comes



On the dusty fields that adjoin Tule Lake, flocks of ducks and geese settle like chaff from the sky.

just before the dawn, and just after the good light has vanished in the evening. Then the sky looks like an aerial four-ringed circus. V's and W's,—squadrons and regiments of the birds wheel by, en-route from the water to adjacent feeding grounds. The sound of their plaintive chatter can be heard for miles, but no film is fast enough to capture all of this at its best.

Baffled at some places, you are determined to find other ways and means of getting the unbelievable story on film.

You drive your car frantically over the wheatfields, along bumpy dikes, with camera poised, and one foot ready to leap out at the right photogenic moment. You crawl on your stomach, whiffing aromatic decaying dirt that was once part of the lakebed, curious insects wonder what it's



On the small patch of water, left from the once vast shallow lake, dogs get a good workout on the opening day.

all about and play "flying trapeze" down your neck, but you grin and bear it, lest the birds find out that you are there and take off before your "shot" is ready.

Eventually though, if you are using just the right background film to bring out the cloud effects, and if your patience holds out, you are apt to get a story that is a knockout.

For there ARE ducks and geese unlimited at the Happy Hunting Ground. Sooner or later, you are bound to get just as wild and canny as the birds, but before you leave, you will get a picture,—a thrilling, unbelievable picture of a rendezvous that has survived the ages.



Thousands of hunters come to Tule Lake for the shooting season, but few ever leave without their bag limits.

Kodak's Film "Aluminum" Tells Story of Important Metal

Presenting the story of a vitally important metal, Eastman Kodak Company announces a new 16-mm. silent film titled "Aluminum." Shown are underground and open pit mining methods, and preliminary processing at the ore mill. The production of aluminum oxide. Reduction of the oxide by the electrolytic method. Casting. Fabrication of aluminum wire and cable. The rolling mill and the manufacture of kitchen utensils by stamping and spinning. Forging an airplane propeller blade. Various uses of aluminum in industry and home. "Aluminum" (one-reel, 400-ft.) is immediately available from Teaching Films Division, Eastman Kodak Company, Rochester, N. Y.

Portraits by Madison Lacy, Warner Bros.









Vera Zorina in "Louisiana Purchase," Paramount Production. Stills by Malcolm Bulloch.









Stills by Talmage H. Morrison

"Louisiana Purchase"

One of the most successful musical comedies ever to reach Broadway, "Lousiana Purchase" grossed $1,679,000 during fifty-eight weeks on the stage before Paramount brought six members of its cast to Hollywood to join Bob Hope in the Technicolor picturization of the show.

The six are Victor Moore, who repeats his inimitable characterization of Senator Oliver P. Loganberry; Vera Zorina, ballet and dramatic star, seen as immigree Marine Von Duren; Irene Bordoni, French comedienne who makes her first return to films in twelve years as Mme. Bordelaise; Charles Le Torre, the head waiter; Charles Lasky, Zorina's dancing partner, and Lynda Grey, one of the front-line showgirls.

Incidentally, "Lousiana Purchase" has no connection with the deal whereby Thomas Jefferson paid Napolean Bonaparte $15,000,000 for the Lousiana territory back in 1803. It is a strictly modern comedy dealing with the second "purchase"—the sell-out to a bunch of political tricksters. And the "Lousiana" and "New Orleans" mentioned in the script are a "mythical" state and city, as the prologue carefully explains.

Of three B. G. De Sylva hits on Broadway, the other two being "Panama Hattie" and "Du Barry Was a Lady," this was the one he most desired to bring personally to the screen. The original story idea is his own. Only major changes between the stage and screen versions involved making Hope, as Jim Taylor, a State Representative instead of a private citizen, permitting a Senate filibuster sequence as a climax, which is packed with the typical Hope brand of humor.

The Victor Moore role as Secretary Loganberry represents the first opportunity he has enjoyed to play in motion pictures, the type of character for which he has been a by-word on Broadway. Though "Make Way for Tomorrow" afforded him a memorable dramatic part, it revealed his versatility rather than his stage personality. "This," wisecracked Victor, "is my last attempt to make good in Hollywood." That he succeeded is indicated by the fact that Paramount has a commitment with him for another picture next year.

So successful was Zorina in the feminine lead opposite Hope, that she has been signed for a straight dramatic role opposite Ray Milland. "The Hour Before Dawn," the Somerset Maughan story to be produced by Paramount this season.

To find the girls, more than 800 tests were conducted, and the final selections represent the cream of the crop throughout







the country. Beauty of face and figure, song and dance talent and ability to pass Technicolor tests were all taken into consideration. Four girls, Margaret Hayes, Eleanor Stewart, Barbara Britton and Katharine Booth, were taken from the studio contract list. Two, Lynda Grey and Blanche Grady, were New York showgirls and models. Two, Jean Wallace and Barbara Slater, had had no previous theatrical or modeling experience. The others, Kay Aldridge, Alaine Brandes, Brooke Evans and Louise La Planche, were former models, this experience being particularly valuable in the fashion show sequence.

Costumes and sets were designed in color by Raul Pene Du Bois, the sets especially representing a departure in color schemes in that they parallel, in chromatic progression, the dramatic action of the story. The picture opens in grays, as though it were being shot in black and white. The first note of color seen is the red hair of the secretary in the lawyer's office. From reds and browns through greens, then blues and golds, the hues become more vivid until they are a rainbow riot in the Mardi Gras and Beaux Arts Ball sequences.

The floats in the Mardi Gras parade represent a similar grouping of color for dramatic effect. The floats themselves are designed as the pirate ship of Lafitte, a dais on which Napoleon signs the original Louisiana Purchase with Jefferson standing by, a plantation float of Creole days and the Rex float on which Hope rides as king.

In addition to his singing, Hope dances, accompanied by a band of negro youngsters, for the first time since he was a vaudeville hoofer. And, as usual, he loses most of his wardrobe during the Beaux Arts Ball. It wouldn't be a Hope picture unless he lost his pants in it somewhere. The dance was one of the final scenes photographed, due to the fact that Bob originally reported to work with a first-class sunburn on his legs, the result of falling asleep on a sun porch at Malibu.

Director Irving Cummings' return to the Paramount lot was his first in twenty-five years. On his previous visit he was one of the principals in "Rupert of Hentzau." Upon completion of "Lousiana Purchase," cast and crew presented him with a two-foot-high figure of a jocky in the Cum-foot-high figure of a jockey in the Cummings colors, which he took with him as tracks.

Vera Zorina

Vera Zorina was born in Berlin, January 2, 1917, of German-Norwegian parentage, and christened Brigitta Hartwig. Her mother, Billi Wimpelmann, who hailed from Kristiansund, Norway, had studied voice in Oslo and Berlin, meeting in the latter city a young singer, Fritz Hartwig, whom she married, relinquishing her own career.

Their daughter's childhood was entirely musical, but music to Brigitta was for dancing. At the age of eight she gave her own recital in Oslo, having composed every dance number herself. When the long awaited ninth birthday occurred she was enrolled in the ballet school in Berlin, where, under the tutelage of Eugenie Eudorova, Brigitta learned the difficult technique of the ballet and its wearying exercises.

In 1929 her mother took her to Paris to continue her studies under Nicholas Legat, whose pupils at one time included Pavlowa and Nijinsky. A severe illness caused the Hartwigs to return to Berlin to recuperate, where a little later Brigitta was engaged by Max Reinhardt as the First Fairy in "Midsummer Night's Dream." This engagement lasted four months, at the end of which Brigitta went to London for six months' training with Anton Dolin, after which she danced with him at Grosvenor House.

Back in Berlin the 15-year-old girl rejoined the Reinhardt troupe in "Tales of Hoffman" and resumed her study under Gsovsky. Her next engagement was with a traveling ballet company which visited Vienna, Budapest and Denmark, where she received a cable from Dolin asking her to join him in the show "Ballerina." It was there that she scored her first real success. During the five-month run of the show, she and Dolin also filled a three-week engagement at Ciro's in London.

She next entered the Russian Ballet as a ballerina instead of following the usual routine of making her start through the corps de ballet. The Ballet was playing at Covent Garden and it was here that Brigitta Hartwig became Vera Zorina, it being the tradition of the Ballet that every member should have a Russian name.

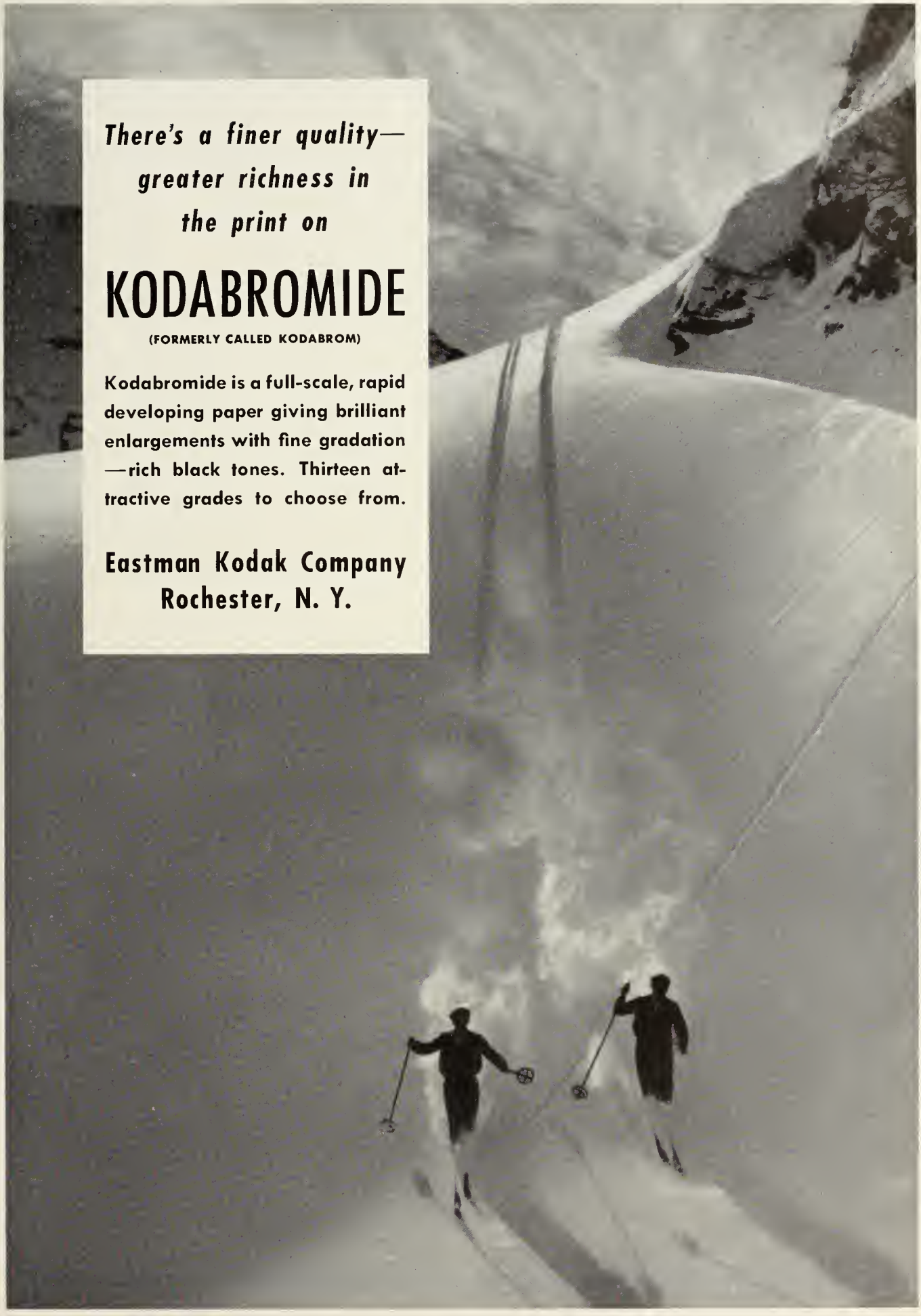
Zorina and her mother came to America for the first time in 1934 and during the two following seasons Zorina toured the United States, Canada and South America with the Ballet Russe. She was carried as a lesser number of the cast, but more and more compelled the attention of audiences and critics. It was while with the Ballet Russe that she turned a deaf ear to her first film offer, wishing to attain stardom first in the ballet.

In London, in 1936, Zorina met Dwight Deere Wiman, about to open a London company of "On Your Toes." Two years later, in 1938, she was about to become his wife. Despite her lack of experience in speaking dialogue, Zorina was signed to a contract immediately.

Again came film offers. She made her camera debut in "Goldwyn Follies." Her great triumph came on Broadway in the B. D. De Sylva musical hit, "Louisiana Purchase." She was hailed anew as one of the brightest dancing stars New York has ever seen. When Paramount purchased the film rights for a Technicolor production, Zorina was the inevitable choice to recreate her role of Mariana von Duren. Her real screen career, she hopes, will begin with that picture, which offers the ideal outlet for all her talents.



Looks like serious business from the expressions of Marlene Dietrich, Fred MacMurray and Mitchell Leisen, producer-director. On the contrary it is Miss Dietrich's first fling into harum-scarum comedy in the Columbia picture, "The Lady is Willing." Still by Irving Lippman.


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Upper left, Anne Gwynne, featured in Universal's "Ride 'Em Cowboy." The other pictures are Marie McDonald, who has just completed her first film role in "It Started With Eve."

Stills by Roman Freulich, Universal Studios

Forms and Faces

The stills here and on the facing page show how a cameraman creates situations best to express a future star's appeal.



Susan Miller, latest of Hollywood's "Cinderella girls." While appearing in a Hollywood night club she was "spotted" by Universal talent scouts, who signed her for the picture, "Swing It, Soldier." Her work so impressed the studio that she was placed under long-term contract and right now she is playing the feminine lead in the new W. C. Fields comedy, "The Great Man."



Maria Montez as Melahi in "South of Tahiti."



Evelyn Ankers, Universal's shapely English importation featured in "Half Way to Shanghai," makes an attractive sun maid at a Hollywood pool.

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Reprinted from the Journal of the Society of Motion Picture Engineers, September, 1941, page 265.

RECENT IMPROVEMENTS IN NON-REFLECTIVE LENS COATING

By William C. Miller

SUMMARY.—*As early as 1892 it was known that the reflectivity of polished glass surfaces was reduced and the light transmission increased when a suitable film was present on the surface of the glass. Many efforts to produce such a film artificially met with only partial success. In the past five years, two different methods have been discovered that achieve the desired results. Only one of the processes, however, was satisfactory for commercial application. Great improvements have been made in the durability and weather resistance of the thin films deposited upon the lens surface by this method. Lenses coated by this improved process require no more careful handling than any good lens is entitled to; fingerprints and dust can be removed without detrimental effects to the coating. The thin films can not be scratched with anything less hard than a metal point. By this process, reflectivity can be reduced from an average of 5 per cent for untreated polished surfaces to as low as 0.5 per cent for treated ones. Experiments show that even greater reductions are possible and should be available in the near future.*

The general application of the lens-coating process to studio optical equipment is now just one year old. In view of the wide interest and attention that this process has aroused, a discussion of the results and a report of the improvements made in the process will be of interest. Unfortunately, time has not permitted the accumulation of exhaustive data. However, those that are available show that the new process is of vital importance in many fields and is already quite indispensable.

HISTORICAL

Although it had been known for many years that certain types of glass developed a tarnish after prolonged exposure to the air, it apparently was not until 1892 that any careful study of the effects of such tarnish was made. At that time H. Dennis Taylor, famous lens designer, made careful measurements upon several tarnished lenses that had come to his attention. The tarnish had the appearance of a metallic sheen and had always been considered to be highly detrimental. The results of Taylor's measurements and tests, however, showed that the tarnished lenses reflected less light from their polished surfaces than did identical new ones. This of itself was of great importance, but of still greater importance was the fact that the light that was no longer reflected by the polished surfaces was transmitted by the lenses. The tarnished lenses produced images measurably brighter than did identical new and untarnished lenses.

Taylor was so impressed with the potentialities of the discovery that he made extensive experiments to find means of producing this tarnish artificially on the surfaces of new lens elements. Unfortunately he met with only partial success, for the types of glass that he was able to treat proved to be limited. Furthermore, the reduction in reflectivity obtainable with many of the glasses was too slight to be of commercial value.

Many efforts were made in subsequent years to discover methods of artificially producing the desired results, but with only moderate success. Kollmorgen, Kellner, Wright, and Ferguson all made contributions to the art, but certain types of glass resisted all attempts to produce a tarnish of the desired nature.

All the processes developed up to that time were of the chemical type; that is, they depended upon the action of chemical solutions or concentrated salts upon the surface of the glass to produce the desired tarnish. Since this reaction took place with the glass itself, it was impossible to remove the effects of the treatment without completely refinishing the optical surface, a costly and time-consuming procedure. The greatest care was therefore necessary in the treatment of optical elements to insure satisfactory results, since an error meant refinishing the surface or making a new element. This treatment could not be safely attempted by anyone other than the makers of the original optical parts.

Since many varieties of glass are employed in the lenses in common use, and many of these glasses either could not be treated at all or could be treated with only moderate success, the application of the process was not widespread.

What was required to make the theory universally practical and applicable was a method of producing the tarnish upon lens surface irrespective of the type of glass from which the lenses were made and would yield reductions in reflectivity sufficiently great to justify the trouble and expense of application.

In view of the many years that elapsed with little or no successful development of the art, it is remarkable that two independent processes of quite a different nature should be announced within the short period of three years. The first announcement came in 1936 of a process discovered by Dr. John Strong[1] of the California Institute of Technology. Strong's process consisted of the deposition of a thin film of

(Continued on Page 16)







Stillman Ted Weisbarth's idea of "Leg Art"

first pictures inside b-19

By Sanford E. Greenwald,
Cameraman, *News of the Day*

One of the greatest thrills of my long coverage for newsreels was the assignment to make the first pictures inside the B-19.

The big ship is still undergoing experimental tests at March Field and the newsreel companies were permitted to photograph the bomber on one of these test flights.

The coverage on this story was cooperative with all newsreels, as is always the case with the Army and Navy, so we drew for positions and points of coverage. Chubby Lehmann of Fox Movietone drew to fly alongside the B-19 in the camera ship; Mervyn Freeman, working for Universal Newsreel, made the take-off, landing and ground shots, and lucky me, I drew the number for inside shots of the giant ship, the first shots to be made inside. I looked forward to great thrills—and I got 'em.

We arrived at March Field at 7:00 a.m. and immediately attended a meeting of all those who intended flying in the B-19. This consisted of Colonel Umstead, the Army's test pilot; Major Bunker, the co-pilot, and a dozen technicians from the Douglas Company who made the first flight with the Colonel from the Douglas plant to March Field last spring. These Douglas men are the last word in human technique and have many ingenious devices installed in the ship to register stress and strain. The ship will undergo tests with these technicians and the Army before being turned over to the Army.

After instructions and assignments to stations for the take-off, we were measured for parachutes and climbed up into the belly of the ship. The first landing or deck leads back into the fuselage bomb bays, the crew's sleeping quarters, the galley and several gunners' stations, also the entrance to the wings. Up on the second deck and you are up in the cabin where the pilots, the radio men, navigator and control engineer are stationed. I was surprised to learn that the pilot does not physically run the engines and other hydraulic machinery but merely signals to the control engineer, much the same as the captain on an ocean liner. The engineer sits at a large panel instrument board with his back to the pilot and watches for the signals.

After all hands were at their stations the motors were started and tested and we were ready to taxi out to the end of the field for the take-off. My take-off station was at one of the windows in the cabin through which I could get a good shot of the two 2,000 horsepower motors, the 110-foot wing and the ground falling away as we lifted gently into the air. I have taken off in a good many planes in my time, but this one gave me quite a different sensation. It was like being up in a two-story building and all sensations of a take-off in an average plane are missing because of the size of the ship.

The fighters and bombers resting on March Field passed my window at ever increasing speed and we were in the air . . . climbing. . . .

We were in a steady climb until we reached an altitude of 8,000 feet over Santa Monica and here is where the many engineering tests were to begin, turns, banks, speed runs (and, oh, boy) dives at a 45-degree angle. All those tests are a little technical for me, so I immediately set out to wander around the entire ship in search of my cut-in shots that were to go with the general views by Lehmann in the camera ship which was to fly alongside, and right there is where I found out that the B-19 is really a fast airplane. The camera plane remained way back of the tail and I wondered why it did not get into position. I found out why when the radio man told me the camera ship, a fast twin motored Douglas bomber, had radioed that it was wide open and could not catch up. "Would the colonel please slow down to allow the camera ship to catch him." But Colonel Umstead was not interested, as he was in the midst of tests, and during the entire flight his eyes were glued to his instruments and his unlighted cigar was going around in large and small circles. If the camera ship could not catch us, well, that was just too bad!

I used a De Vry camera with a 25mm lens and made several hundred feet of everything I could see, which included the cabin with all hands at their stations, a close-up of the Colonel (cigar and all), the control panel, the gun turrets, the crew's quarters, scenes in the wings, the gunners' stations in the tail and in the blisters underneath the ship, the bombardiers' station in the nose and shots out the windows showing the giant motors, the endless wing expansion and the Army P-40 fighters who were escorting us. They looked like large bees at the ends of the B-19 wings.

And here is where I received thrill number one. The camera ship had landed back at March Field and Lehmann and Don Brinn, the latter shooting stills for Wide World Photos, were raising plenty of hell because they did not get in close enough to the B-19. I guess the pilot got sore, so he ordered them back into the camera ship, telling them he would get them close this time or else. He will never know how close it came to being "or else." We were on our way back to the field when just about at Oxnard the radio man motioned me to look out of the window.

I shudder when I think of what I saw: The camera ship in a dive headed straight for our wing! It leveled off and the wing overlapped ours about twelve feet. Everyone in the B-19 held his breath. The Colonel, who was not looking, lifted the wing of the B-19 to turn, and the pilot of the camera ship barely had time to lift the wings and veer off just enough to put the landing wheel on his tail on the top of our wing. I started to think about my parachute. (*The boys in the camera ship got their close-up.—Editorial note.*)

I had barely swallowed my heart when I got socked with thrill number two. I was in the back compartment getting my breath when one of the Douglas men told me the Colonel was now going to dive the B-19 four times—and steeper than it had ever dived before. We received orders to attach our parachutes. My job was to try and photograph the ends of the wings, which bend up about 10 feet when the ship comes out of the dive. Frankie Filen of the A.P. was right under me with a still camera shooting out the side window. There we stood, very tense, waiting for whatever might happen—and then it DID!

It's strange, but the ship is so big you hardly feel any sensation when she goes into a dive, BUT when she pulls out at the bottom; well, baby, that's something else again. If you can imagine how it feels to have someone put ten tons of lead in your pants, you have a SLIGHT idea of the sensation. I tumbled on top of Filen and we both went scrambling to the floor of the ship, where we stuck until we got on even keel again. We had just gained our equilibrium when the Douglas man shouted, "HERE WE GO AGAIN, BOYS!" The second dive was worse than the first, the sensation being that you were glued to the seat and your arms and legs weighed a ton.

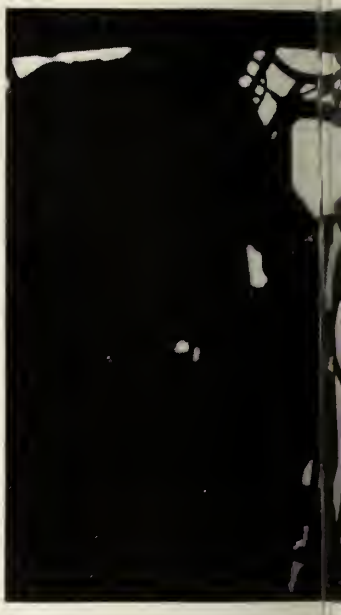
What's the Colonel trying to do? Dive the wings off this monster? We take it because there is nothing else to do, but, gosh, will we be glad when we get over this phase of the flight!

After the last dive and we were headed back to March Field, we got very brave again and started to enjoy the ride. Then comes thrill number three. Just as we got comfortable a noisy siren started blowing. What's this, we thought? Have the wings come off or one of the motors dropped out? This must be the bail-out signal. As we got up weakly to adjust our 'chutes, the Douglas man gave a knowing smile and yelled in our ears: "The siren is just a signal to let the pilot know the eight-foot landing wheels are lowered for the landing."

After a smooth landing and a very quick stop we taxied up to the starting point, where all hands disembarked—wiser men and feeling a hellofalot safer.







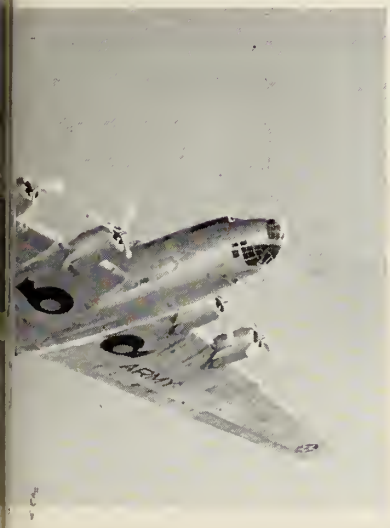


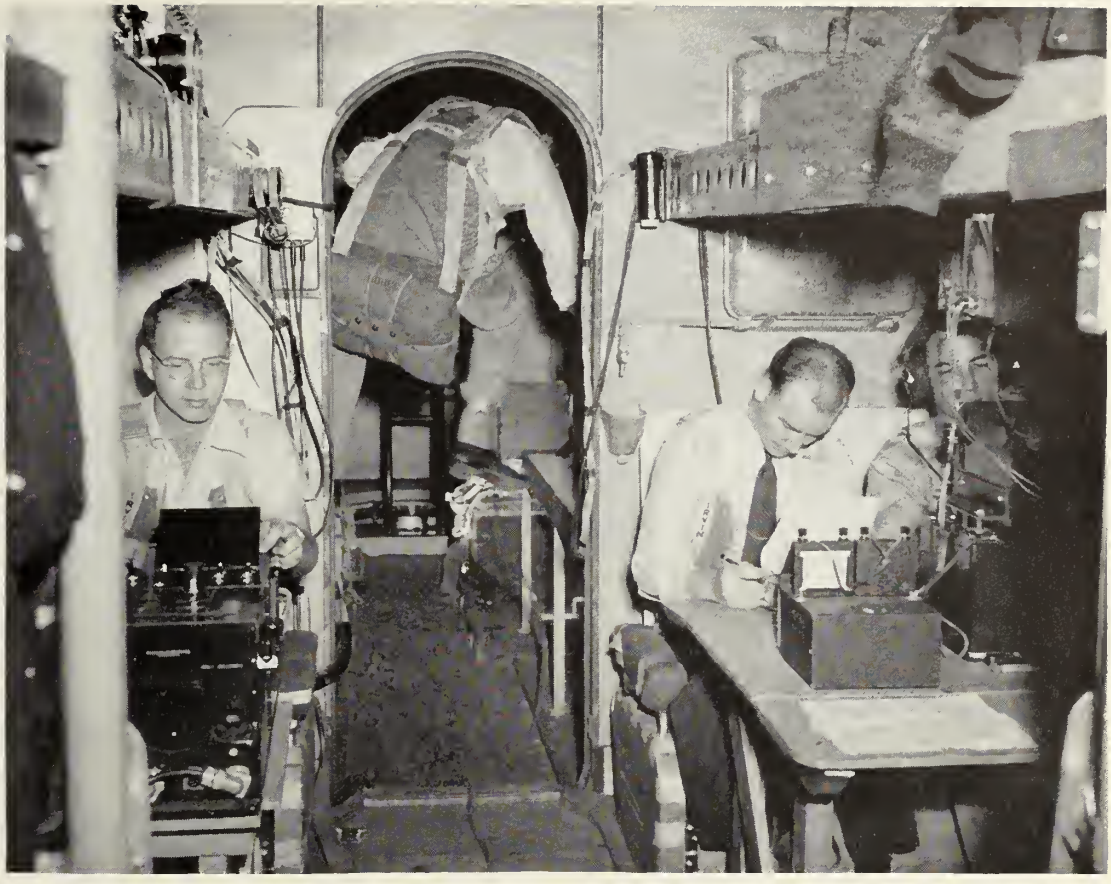


Left, reading down: Lieutenant Stanley M. Umstead, pilot; Major Howard G. Bunker, co-pilot and Mark Koggler, Umstead's personal crew chief. It is here that the signals are given which are relayed to the pilot at the panel board (shown in the picture below). Lower left: Shows what goes on behind the Colonel's back. Radio man Duncan Hall; Flight Engineer J Grant at the engine controls and Ver Peterson from the Wright Aero Comp also watching the engine controls.











Center, reading down: The B-19 and an army advance flyer; California coastline from bombardier's compartment; the B-19 in flight.

Right: Main cabin of the B-19 showing experimental devices and flight test equipment (in background is gunner ascending to his turret); "shooting" out of the window of the cabin, with one of the army's P-40 fighting planes at the end of the wing *(See story on page 13).*

Coated Lenses

(Continued from Page 12)

suitable material upon the surface of optical elements in a high vacuum. This thin film, when deposited under the correct conditions and to a specified thickness, effected reductions in the surface reflectivity as great as 85 per cent. The second announcement came in 1939 of a process discovered by Miss Katherine Blodgett[2] of the General Electric Laboratories. Miss Blodgett's process consisted of the formation of a soapy film of the required characteristics upon the surface of optical elements. Although the reductions in reflectivity achieved by this process were great, the extreme fragility of the film made the process impracticable for general use.

THEORETICAL

The theory of the reduction of surface reflection has been dealt with so thoroughly and competently by others in the literature[1] [2] [3] [4] that it will be necessary to give only the general principles of the phenomenon here. The quantity of light reflected from the polished surface of a transparent material and, therefore, lost from the transmitted beam, depends upon such factors as the index of refraction of the material and the angle at which the light strikes the surface. If the angle of incidence is kept constant, then the index of refraction is the determining factor, and the higher the index the greater is the percentage of light reflected.

Light can be considered as traveling in a wave form. When a beam of light is reflected from two parallel polished surfaces of a transparent material, the light-waves can be made to supplement or oppose each other in the reflected beams by suitable adjustment of the separation of the reflecting surfaces. When these have an optical separation of ¼ of a wavelength, the waves in the two reflected beams oppose each other and cause destructive interference. The total intensity of the reflected beam will be zero when, and only when, the two components are of equal intensity.

If we wish to reduce the reflectivity of the polished surfaces of an optical element and thereby increase their transmission, it can, therefore, be done by providing over the entire element two reflective surfaces separated by ¼ wavelength, both surfaces reflecting an equal amount of light. Under these conditions, the two beams will cancel each other. Although it was not clearly understood until the time of Dr. Strong's work, it was this interference phenomenon that accounted for the effects observed by Taylor and the others.

The most satisfactory method of producing the two reflective surfaces separated by the correct distance is to form upon the surface of an optical element a film of transparent material of such nature and of such refractive index that the light reflected from the contact surface where the film touches the glass equals that reflected from the upper surface. This index can be found with little trouble to be equal to about 1.25.

The effects that Taylor observed first were due to the formation of a film of approximately the required characteristics by the chemical action of the air with some of the constituents of the glass. The chemical methods that were subsequently developed all aimed at the artificial stimulation of such a film. The failure of the methods to produce more satisfactory results was due to the fact that a film of the required index could not be formed on all types of glass. Even the process developed by Strong missed perfection in that particular respect, for there is no suitable substance that can be applied in the form of a film having an index as low as the required 1.25.

All the processes—the chemical by Taylor, Kollmorgen, Kellner, Wright, and Ferguson; the evaporation by Strong; and the one by Miss Blodgett—fail in one other important respect which offers such natural obstacles that it may never be surmounted; that is, the thickness requirement. The film can be made of the required thickness for only one wavelength at a time and is, therefore, wrong for all others. Consequently, when white light is used, the reduction of reflectivity can be made a minimum for only one color; all others suffer greater amounts of reflection. Fortunately, the difference for other colors is not great, but it is sufficient to give treated surfaces a colored hue when viewed by reflected light. If all colors were reduced equally, the remaining small amount of reflected light would not display any predominant color.

Optical systems designed to work with light of some certain wavelength should be treated to give maximum transmission for that wavelength. Complying with this rule there are in use in the studios many violet recording systems that have been treated for maximum transmission at about 4000 A.

At the writing of the previous paper[5] on this subject in April, 1940, the process had been in use experimentally for only a few months, but such great interest was shown in the possibilities of the process that a report was considered desirable at that time. Due to the newness of the process, however, little definite information based on actual production results could be given. At the present writing, however, some very interesting data are at hand, supplied through the courtesy of several of the studios in Hollywood.

Sound-recording systems consisting of ten air-glass surfaces have been treated both for violet and unfiltered light. A gain in transmission of 50 per cent was measured in nearly all cases. Since the tungsten recorder lamps are of necessity burned at or near their peak capacity, this 50 per cent increase in transmission in the optical train has made it possible to relieve the load on the lamps and thereby considerably increase the lamp life. In some instances the gains obtained by treatment of the lenses have been utilized, not to save current or lamp life, but to make possible the use of slower, finer-grained films.

A large number of motion picture camera lenses has been treated during the past year. Careful measurements made at one of the major studios on a 3-inch focus Cooke Speed Panchro lens at *f*/2.0 showed the transmission of the untreated lens to be 69.5 per cent. The transmission of the lens when treated was 95.1 per cent. In other words, the light loss had been reduced from nearly 30 per cent to less than 5 per cent. Another studio reports measurements showing a gain of 32 per cent due to treatment of another type of lens.

Of even greater interest than the increase in transmission is the improvement in the image quality due to this treatment. The increase in contrast and brilliance of pictures made with treated lenses is very noticeable. In work where the utmost in image quality is required, such as in process projection keys, the treatment is of great value and is widely used in several studios.

(Concluded in January Issue)

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YOURS TRULY, NORMAN ALLEY

Charles Saxton, Hollywood writer, just returned from New York, has turned over to us two interesting personal letters, sent to him by Newsreeler Alley during a recent survey sojourn in South America where, in addition to his NEWS OF THE DAY credentials, he carried the goodwill folio of Jock Whitney and Nelson Rockefeller.

The two missives, which may just as well have been open letters to all Americans, speak for themselves. Space permits publication of only one letter. (Editorial note.)

RIO, Tues. 27th.

Dear Charlie:

Well, here I am in South America—and what a relief it is to see beautiful senoritas and smiling hombres everywhere I turn instead of scowling storm troopers and jittery air raid wardens!

I'm parking the body at the Copacabana Palace, which is like one of the swank hostels in pre-hostile Europe. Portuguese is Brazil's mother tongue, though Spanish suffices commercially, but you would have died had you been here to see me make my bow at this Brazilian Biltmore by barging boldly into the lobby with a Spanish-American dictionary thumbed open to just the right page. The Oxonian room clerk and the bellhops looked at me with that same piteous curiosity as that evidenced in those gals of Gaul when I shavetailed into France in '17.

I was only here 24 hours when I fell heir to a red-hot newsreel story. Paradise took French leave of this Portuguese town when Ole Man Mercury hotfooted to 105 above. But lens journalists, like the U. S. Mail, are never chased to cover by cyclone, deluge, death, taxes, or hellish heat. I lost no time in making a news movie which should have been captioned THE WHOLE TOWN'S COOKING. The Rio Chamber of Commerce was quick to assure me that such weather was most unusual—but who am I to dispute the word of such an august body, even though it wasn't August? I come from Southern California!

Thirty-five victims of Senor Sol, but—curiously enough—those most serious laid low were native Brazilians. I made some cheesecake shots at Copacabana Beach, to which most of the sizzling citizenry that look good in bathing suits fled from the swelter of the metropolis.

The temperature delightfully dropped in time for the Carnival at Rio, which is a colorful cross between the New Orleans Mardi Gras and the one at Coney Island. We had a lot of fun.

When I say we, I include Juan What's-his-name. Juan, who would make a good bullfighter were one able to find a bull that could make the weight, is my self-appointed leg man, pack mule, and guide par excellence. An hombre like Juan makes it easy for me to wend my South American way. I always fall heir to a fellow like Juan, rergardless of what part of the world I may be in. They fade into my life in strange ways. Sometimes I win one of them in a poker game, or find one panting hungrily at my doorstep. But all I know is that I'm no longer than a day or so in some strange sector or on a new front when I turn around to find one at my elbow.

If you remember, Charlie, in far-off Shanghai and Nanking, it was Chinese Joe. At Canton, it was big-eared Billikin. In Spain, it was Esteben. In Chicago, a Jewish boy named Looie. During the Holland invasion it was Fritz, and here in Rio it's Juan.

Juan is one of those Forgotten Men you'll always remember. He's as proud of his English as I am ashamed of my Spanish, and some of the dialect tidbits he tosses my way are lulus. When I asked him who was his favorite movie actor he grunted and exclaimed, "Palookas!" Well, it was three days later before I found out that, instead of calling Hollywood actors "palookas," he was telling me he liked Paul Lukas!

Speaking of Hollywood, I went to a movie on my first evening over in the Serrador Center. I caught Jesse James in the native tongue. Jesse James, pronounced in the Spanish manner, would sound like Hethie Hymie, and that brings me to another interesting point in this fascinating business of speaking Spanish. Somewhere I had been told once that the real reason the Spanish pronounce their soft "c" and esses like tee-aitch was because of an original diplomatic device of the royal yes-men to cover up a Spanish king who lisped. After consulting the Castilian of several well-informed Hioites, I still lack proof that such was the case.

The weather, continuing nice, got to the point where it was yelling "fore" to all gadabouts of the green, and my camera galleried President Gitulio Vargas at a round of golf. Vargas jockeys a fair niblick, Charlie, and an intimate close-up of the man causes me to readily appreciate why those two farmers who plowed up the world's largest diamond in the bed of the River of Saint Anthony named the 726-carat gem after him. Yessir, Gitulio Vargas is the Rio McCoy!

At the 19th hole, Vargas cooled off with something that resembles our own Kentucky mint julep. As we stood by and watched, Juan turned toward my nearest ear and half whispered: "El President ees like beeg feesh!" Well, that crack struck me as approximating les majeste and high treason, until my English-fungoing one-man safari explained that what he meant was that Vargas likes to go deep-sea fishing for the big ones!

That President Vargas likes to go fishing got me to wishfully thinking that it would be great should he and Franklin D. form an angling twosome in the Caribbean some day soon. It would be a rare privilege indeed to listen in on them at the end of a fisherman's perfect day, as they might try to convince each other as to how big the one was that got away. A news movie that I'd go a long way to make would be that one showing the two democratic chieftains swapping fish stories in the salon of the palatial presidential yacht. Vargas would stretch his arms to the straining point, and aver, "Senor Roosevelt, I once caught a sailfish this size—and with a pin hook." Then I can see FDR topping him by describing an experience with one the length of the long dining table. Vargas would blink, take a deep breath, and up it one even longer than the banquet table—until, finally, our own president, who never has had much to do with small fry, would essay description of a fish to end all fish by saying: "Well, neighbor, I once caught a tiger shark that reached from yonder porthole to uhh, let's see—yes, from there to—aw shucks, Gitulio, let's go out on deck where there's enough room to talk of such things!"

All of which would be swell, Charlie, because smiling men who tell white lies about the size of the fish they've caught, or who throw an expensive bag of clubs into the brook when they miss a shot that would be a fairly tough one for even a Bobby Jones, are without exception the type of peace-loving fellows who will put their shoulders together when the showdown comes and fight like hell for the continuance of Life, Liberty, and the undisturbed Pusuit of Happiness. Don't you think so, Charlie?

Buenos noches, pal—and more next week.

NORMAN.

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LET'S GET TOUGH - - film

By Harry Murchison

Fifteen years is a long time . . . long enough for a kid to go through grammar school and high school and most of a college stanza . . . long enough for several crops of stars to grow bright in Hollywood, dim, and be forgotten . . . long enough for a number of cycles of film stories, and for the talkies to have come along and revolutionized an industry . . . long enough for the appearance of a wide range of technical developments which have marked the growth of the movies.

Fifteen years is just about the length of time there has been in existance a process of film preservation which has almost spectacular claims. Because of the absence of ballyhoo and of any sustained promotional drive, few outside the industry—and not many within it—know anything about the O'Sullivan Film Process, whose inspiration lay in a desire to protect the sound tracks of the first experimental talking pictures.

Fortunately it was discovered that application of a liquid to a given film area could not be wholly controlled. It was impossible to protect only the sound track, for the liquid spread. With further research it became evident that the spreading of the chemical was benefitting the entire film surface; further study revealed that it was also penetrating to become part of the base of the film, and that the result was a film that was tough—inside and out.

Damage to film from any of a number of sources is familier to most cameramen and other technicians within the industry. Usually carelessness or inexperience is responsible for the enlargement and breaking of sprocket holes, the marking of sprocket teeth on frame or between the holes, or the marking of sound tracks. Breaking of film as the result of an over-tight take-up reel or looping of film around a stationery object is another familiar cause of damage. Accordion-pleating, coming from loose winding of film on the reel followed by pulling of the loose end to tighten it, or from uneven winding on the reel is yet another; similarly, film may be crushed or have its edges ruffled.

Scratching of emulsion, resulting from improper cleaning—or total absence of cleaning—of the projector before a showing is undoubtedly one of the most serious forms of film damage directly attributable to human negligence, and it is one of the first things the O'Sullivan Film Process overcomes in large measure by reason of its cover-coating the emulsion protectively without adding any measurable thickness to the wound reel of film. Hair-line scratches, which come from faulty mechanism or from an accumulation of particles of dust and dirt lodged in the film gate, may still appear on the coating, but because the emulsion is protected, projection remains perfect. The same protective factor virtually eliminates peeling and blistering of emulsion.

Moisture has long been a bugaboo. Creeping to the surface, it produces watermarks on the film, ultimately this sweating results in the rotting of film; excessive humidity causes emulsion to slime off. Sweating is also a factor in the bleeding of color, and with light from projection which causes fading, is equally responsible for the destruction of color film. Again the O'Sullivan Film Process, with its inner and outer toughening which "ties" notably unstable dyes, claims to prevent this deterioration, and also to prevent rainbowing as a result of splicing.

Capt. John D. Craig of New York, a writer ("Danger Is My Business"), explorer, photographer and lecturer, is one of those who verifies the laboratory's claims, asserting that he uses his Kodachrome originals in all his lectures, and reporting that "it would take an expert to pick out the new print shots from the old ones" when he had occasion to intercut new film with a year-old O'Sullivan-Processed reel which had been used 82 times on 16mm arc projectors and 37 times on incandescent lamp projectors during his series. "I attribute this color brilliancy and resistance to scratching," he declares, "entirely to your process of film preservation."

In other tests of color film, a 16-inch strip of processed film was boiled for two hours, dried, examined, and neither fading of color nor drawing of emulsion was discernible; letting film stand in a jar of water for 48 hours likewise produced no change.

Acetone solutions, largely used for splicing, must be handled with considerable care in order to avoid smearing the emulsion. Yet application of pure acetone to a strip of color film resulted in dissolution of the base long before the emulsion appeared to be affected. Carbon tetrachloride is another agent which may draw and smear emulsion when applied too freely or too roughly: rubbed with a coarse cloth a very liberal application of carbon tet showed no damage—a further indication of the risistance of film to dirt in the projector.

Protection against excessive humidity has already been named as one of the things the O'Sullivan Process overcomes. The same thing applies to excessive dryness, and to changes in temperature. As one test, a strip of film was left in an open box under the porch of a mountain cabin where temperatures ranged from below freezing to some 122 degrees, for six years. The film itself is now at least a dozen years old, for it had been discarded for some time when it was processed in 1931. Yet today it is still pliable, neither warped nor shrunken, and is still projectable.

At the same time film resists oil and grease, which the U. S. Bureau of Standards says is its worst enemy. True, it does not shed these foreign elements, but neither does it permit any penetration into emulsion or base, and any standard solvent will clean it off easily, without harming either film or the effectiveness of the treatment itself.

As for pliability, tests have shown the possibility of securing more than 3000 projections from O'Sullivan-Processed film. A continuous loop has gone that long without breakdown. An early user of coin-controlled continuous projection equipment saw a single processed reel take in over $110 in nickels, for a total of 2800 show-

(Continued on Page 27)

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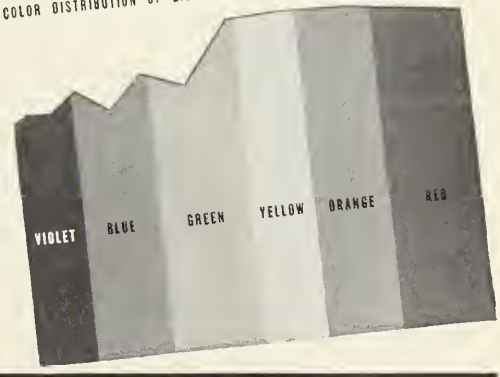
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16MM. DEPARTMENT

Some Fundamentals Underlying Sound-on-film

The average amateur either is of insufficient affluence or feels that the making of a sound picture is way beyond him. Consequently today there are few people doing any work with film where sound is employed. It is a fact that it is more expensive than straight photographic work, although not of sufficiently increased proportions to warrant ruling it out entirely. It also is true that it is more exacting than straight photographic work, but we feel that the amateur who has the ability to master his camera medium to the point where he can *intelligently* make pictures with it can do the same thing with the expanded equipment fulfilling the requirements of sound-on-film. And since in recent weeks we have been confronted by several who have expressed an interest in the medium and wish to know "what it is all about," even though they may not engage in the actual production themselves, we are going to give them some of the basic fundamentals underlying its operation.

In the early days of sound pictures, the sound was recorded on a disc, one similar to the phonograph records with which we are all familiar, but differing in that they were 16 inches wide instead of 10 or 12, and turning at 33⅓ revolutions a minute instead of the usual 78. The recording was made in "sync" with the picture and started that way when projected — but often didn't remain that way through the entire reel! We are mentioning this particular method because we feel that manufacturers are overlooking a good bet for the amateurs. There are "home recording" machines available on the market today that retail for surprisingly small cost, are portable and easy (or relatively so) to carry, and above all use the *very inexpensive acetate discs for the recording—which requires no processing. THE ONLY REQUIREMENTS THAT WOULD HAVE TO BE MET ARE THOSE OF SYNCHRONISM,* and possibly an amplifier having greater ability to amplify or pick up weaker sounds than the present machines do and which doesn't present any particularly great problems. The maintenance of "sync," too, is *no great problem,* requiring only that a synchronous motor be used on the recorder instead of the usual "wild" motor, and the use of a similar "sync" motor on the camera instead of relying on the spring motor so prevalent on amateur equipment.

Anyone who is familiar with the basic simplicity of the requirements involved here will agree that the one big expense has been entirely removed by the use of the acetate discs which sell for about ten or fifteen cents a disc and can be played immediately after recording, without processing. With proper care and use (by having a very light crystal pick-up) they will last. Such a combination is not only possible and feasible, but would open up an entire new field for the amateur that formerly has been closed to him because of the added cost of sound on film and the additional technical problems its use poised. It is our opinion that here lies a virgin field for a manufacturer and one that should prove as lucrative to him as it would be interesting to the user and it would open up for the amateur the possibility of making sound pictures.

Of course, it should be emphasized that sound-on-disc is not as a flexible from the editorial standpoint as sound-on-film, but with a little ingenuity the amateur, who generally leads in advancement in almost any field, should be able to fit his technique to suit the medium and get some very satisfactory results. It must be added that the turntable on which the record is reproduced must also possess a "sync" motor, but with most machines on the market today there is also a pick-up arm that swings into place on the same table used for the recording, so there is no particular problem with the reproduction.

But we started out to talk about sound-on-film. This method of recording is a *photographic process.* Everything is done from a photographic standpoint; the little hills and valleys—or the varying intensities of light and shade (depending upon the system used) are actually photographed pictures of vibrations as they are picked up by the microphone. On that premise let us proceed.

Those of you who have studied physics will know that a sound wave is a longitudinal wave as opposed to the transverse nature of a light wave. In everyday language it means that the sound wave travels in a *straight line* and reaches its goal, our ears, by setting up a succession of minute disturbances in the air which alternately compress it slightly one instant and the next instant cause there to be a slight vacuum.

It is this series of "condensations and rarefactions," as these compressions and vacuums are called, that represent a sound wave. If we strike middle "a" on the piano, the strings will vibrate at a frequency of 440 times per second. That means that the air will be alternately compressed and then rarefied at the rate of 440 times per second.

When this mechanical disturbance of the air reaches the microphone, these compressions—or condensations—and rarefactions —or minute vacuums—they set up a mechanical vibration in the sensitive portion of the microphone which will move about in any manner the sound waves happen to



Actor and Cameraman Confer

John Carradine, quite an amateur photographer, and Arthur Miller discuss the next camera set-up on Twentieth Century Fox sea set of "Son of Fury."

be vibrating. The microphone has as its *purpose* to change into *electrical vibrations* in the wires leading from it, the *mechanical vibrations* of the sound waves, and does this by causing a *large* amount (relatively) of current to flow through it when a condensation happens to be hitting it, and a *small* amount of current when a rarefaction follows. Thus, the electrical output of the microphone will be a series of changes from large current flow to small current flow, which will be an exact replica of the condensations and rarefactions hitting the microphone, and this, in a complex form of varying intensities, frequencies (or speeds), and patterns, will represent the complex and interwoven nature of familiar sounds, as of an orchestra.

But the electrical output of so sensitive a device as a microphone is *extremely* weak, and before it can be made to do any work in the recorder it must be built up to proportions strong enough to do so. This is the work of an *amplifier*, which simply changes the microscopically minute impulses coming from the microphone into strong electrical currents, measurable, and capable of doing mechanical work.

Skipping all the refinements of present day recording apparatus (such as attenuators, compensators, mixers, etc.) the output of the amplifier then comes to the recorder proper. Of these, there are two basic types. In one system, the RCA, the intensity of the light remains constant, and hence the density of the track is always the same; but the *width* of the track will vary. This is accomplished by focusing a light (called an "exciter lamp") through a mirror—a moveable mirror, which is attached to an instrument called a galvanometer, which is a highly specialized form of an electromagnet. When a strong current is sent through this magnet, or galvanometer, it will pull the mirror into a position which will expose the entire width of the sound track on the film. When a weak current flows it will permit a spring to pull the mirror into a position where the reflection of the exciter lamp will only cover a very small portion of the track and expose only the small portion.

Now, then, with the film running through the recorder, the movements of this mirror causing alternate wide exposure lines and narrow ones—corresponding to the vibrating electrical impulses coming from the microphone, and which represent the sound waves, will expose the photographic film, giving it an impression (photographic) of what is happening in the galvanometer, and consequently, in the microphone. And, when this film is developed, we see the characteristic hills and valleys that represent the sound itself.

In the Western Electric system, the width of the track is constant. Instead of having a galvanometer which moves a mirror, we have a "light valve," which permits a lot of light to pass through it when a strong current is flowing, and a small amount of light when the current is weak. The result is a track which is of uniform width, but of a varying density. *But the variations in the amount of light that can pass through a small slit—or line—of light focused on this film are the same.* They are merely expressed in different terms.

The reproduction of this track is just the reverse of the recording. A small beam of light from an exciter lamp is focused on the track, behind which is a photoelectric cell, which is sensitive to light changes. Where a condensation occurred in the sound wave, a strong current was set up by the microphone, which caused a dense exposure on the film. When this was printed on the positive it became a light exposure, or line, and this now is permitting a lot of light from the exciter lamp to reach the photocell. The opposite is true for the instant there is a rarefaction. The photocell, then permits varying amounts of electric current to pass through it, varying in the exact manner in which the microphone picked them up in the recorder. This output, too, is very small, and is passed on to an amplifier, which builds it up to the point where it is strong enough to do some practical work, and is then passed on to the loudspeaker, *where the electrical impulses — or vibrations — are turned back into mechanical movements— or sound waves.*

PATENTS

By ROBERT W. FULWIDER, *Patent Attorney, Los Angeles*

No. 2,258,187—Integral Mask for Multicolor Film. *Leopold D. Mannes, Leopold Godowsky, Jr., and Lot S. Wilder*, assignors to Eastman Kodak Co. Application May 15, 1941. In Great Britain January 15, 1940. 4 claims.

A color film for producing corrected color prints which has in order: a blue sensitive emulsion; a yellow filter; a slow blue sensitive emulsion; and green and red sensitive emulsions; of which the slow blue sensitive emulsion is developed to form a metallic silver masking image.

No. 2,258,313—Film Filter. *Joseph M. Bing*, New York. Application February 12, 1941. 5 claims.

A film scraper having a guide rod carrying a slidable head which may be moved along the rod and across the film.

No. 2,258,356—Film Splicer. *Jacob M. Goldberg*, Denver Colorado. Application March 18, 1940. 12 claims.

A power operated film scraper in which an electric motor drives a toothed cutter which may be manually moved across the film.

No. 2,258,558—Apparatus for Obtaining Photographs in Color by Projection Copying. *Anne Henri Jacques de Lassus Saint Genies*, Versailles, France. Application March 10, 1939, Ser. 261,066. In France March 18, 1938. 5 claims.

A device for projection copying of an original film bearing a plurality of separation records onto a copy film provided with a plurality of sensitized layers having different photographic properties.

No. 2,258,976 — Photographic Sound Track. *Le Roy M. Dearing*, assignor to Eastman Kodak Co. Application May 3, 1940. 4 claims.

The method of producing a sound track in a photographic film, which comprises printing the sound track image on the film, developing the film to a negative sound image, and treating the sound track area of the film with a combined sulfiding and iodizing bath to form a combined silver sulfide and silver iodide sound track in the film.

No. 2,259,415—Camera Focusing Device. *William C. Eddy*, Kenilworth, Ill, assignor to Balaban & Katz Corp., Chicago, a corp. of Delaware. Application February 5, 1941. 5 claims.

A camera focusing device in which rough focusing is done by a lever moving in a plane parallel to the optical axis of the lens, and screw means mounted on the lever for effecting precise focusing.

No. 2,259,493 — Automatic Film Jam Shutoff. *Melvin Shorr*, Dayton, Ohio. Application April 4, 1941. 5 claims.

A motor driven film rewind with a loop catcher which, if the film does not remain taut, turns off the motor power and signals the operator.

No. 2,260,092—Method of Creating Cartoon Effects. *Leonard B. Pickley*, assignor to Walt Disney Productions. Application Dec. 26, 1939. 2 claims.

A method of producing shadow effects in animated cartoons by placing a colored transparent film over the picture to be photographed, applying a protective coating over parts of the transparent film, removing the color from the remaining parts, and then photographing the whole.

TRADEWINDS

O. H. Young is New Manager of GE Photolamp Sales

O. H. Young, who has been in charge of trade promotion for G-E Lamp Department at Nela Park, Cleveland, has just been advanced to head up a newly formed Photolamp Sales Department. As manager of this new Nela Park division, Mr. Young will be responsible for the promotion of G-E Mazda Photolamp sales throughout the country and for the establishment of new sales policies designed to simplify present rules governing wholesale and retail photolamp relations with G.E.

Assisting Mr. Young in his new position will be a staff of trained specialists who will devote their time exclusively to the sale of photolamps. The new organization will supplement the work of G-E Lamp Department's seventeen sales divisions which blanket the United States in serving distributors, retailers, professional and amateur photographers, and newspapers which use G.E. Mazda photolamps. "The new set-up is designed to put us a step ahead of the rapid growth of the photographic market in recent months, especially in the photoflash and photoflood fields," officials at Nela Park said.



O. H. Young

News from Bell & Howell

At a time of soaring prices, it is encouraging to note that increased demand can still bring about price reduction in new fields that are just developing to the mass market stage. This is the case with rental rates on feature films. Bell & Howell's Filmosound Library just announced reductions in the rental price of over 200 recreational feature films, some amounting to as much as 50 per cent. Still further reductions are offered to "Annual Service" patrons who use not less than six features, or forty reels of short subjects in a year. New catalogs describing the library's 3,000 films are available to owners of 16mm. projectors who register their equipment and indicate their approximate rental needs.

Two newcomers to the list of alpine skiing films are announced by Bell & Howell's Filmosound Library—single reelers with musical background instead of narration, and gorgeous photography of snowscape and winter sport. The new titles are: "Ski Symphony" and "Milady Takes to Skiis."

Others in the same series, previously released by other distributors but now taken over exclusively by Bell & Howell, are: "Skiing with Hannes Schneider," "High School of Skiing," "Snowscapes," "Winter Magic," "Rock and Ice," and "Winter Holiday."

Other new subjects in the Filmosound Library include: "In Mozart's Footsteps," "Flying Paddles," "Baroque Architecture," "Tyrol," "Masters of Sacred Music" and "Three Dances From Vienna." Older releases in the same series, all now distributed by Bell & Howell, include: "Village Symphony," "Corpus Christi," "Vienna—Home of Waltzes," "A Day in Vienna."

The long series of single-reelers in color offered by Bell & Howell Filmosound Library under the general heading "Our Colorful World" is being augmented by several new arrivals. Two by Dr. A. C. Twomey, of the Carnegie Museum, deal with the work of the naturalists afield. The first, "In the Wake of the 'Beagle'", traces the historic journey of Darwin from Tierra Del Fuego to the Galapagos; the second, "Desert in Bloom," shows the flora and



THE *Spectacular* EYEMO FOR UNUSUAL SHOTS

ARTHUR MENKEN, *Paramount Newsreel man,* using his Eyemo "somewhere at the front." His choice for this work is a model with the offset turret which permits simultaneous mounting, without interference, of a wide range of lenses.

SINCE their introduction 16 years ago, Eyemos have been known as the cameras that really get the unusual shots . . . shots difficult or impossible to make with other 35mm. cameras. Eyemos have long been praised, too, for their unfailing performance under conditions trying to both man and machine. And now, with seven improved models from which to choose, Eyemos have more to offer you than ever before!

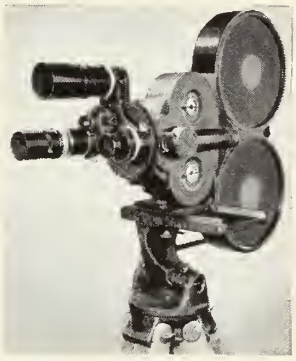
Probably one of the seven standard Eyemo models will meet your requirements exactly. But if not, we won't want you to compromise. We'll modify any Eyemo so that it *will* measure up to your specifications. This close collaboration is a highly beneficial result of the B&H policy of selling Eyemos in just one way—*direct from the factory to you.*

Write, or visit the nearest B&H branch, and tell us about your needs. With no obligation to you we'll gladly submit our suggestions for your ideal camera. Bell & Howell Company, Chicago; New York; Hollywood; Washington, D. C.; London. *Established 1907.*

EYEMO ACCESSORIES add to the great inherent versatility of the cameras themselves. They include a special Eyemo Heavy-duty Tripod, alignment gauge, lenses, filters, exposure meters, editing equipment, and especially designed carrying cases for the cameras together with the commonly used accessories.



EYEMO MODELS L and M have the compact type of three-lens turret. Viewfinder is matched to 6 lens focal lengths by turning a drum; shows "sound" field to match camera's "sound" aperture plate. Operating speeds: Model L—4 to 32 frames per second; Model M—8 to 48.



EYEMO MODELS P and Q, most complete of the seven standard models, have three-arm offset turret, prismatic focuser with magnifier, and provisions for electric motor and external film magazines. Speeds: Model P—4, 8, 12, 16, 24, and 32 f.p.s.; Model Q—8, 12, 16, 24, 32, and 48 f.p.s.

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fauna of the southern Arizona desert and the practical work of a group of naturalists who assemble a habitat group for their museum. The same general note is struck in "Yellowstone Wild Life," by Alfred M. Bailey, of the Colorado Museum.

"Northwest in Bloom" shows the flowers of Oregon and Washington in natural color. Several more films of the Northwest on logging and farming are being prepared. "The Real Hawaii," by Leroy Segall, shows the principal industries, sugar, fruit, tourists, mixtures of peoples, survivals of native life, and defense. "Porto Rico," photographed by George Greenwood, is similar. Three reels on Yosemite wild life, and especially the National Park Service "Junior Nature School," are also in work: the first, "Let's Look at Trees," is now ready.

Other recent color reels just completed include "Navajo Sand Painting," photographed in Monument Valley by Jack Breed, and "American Frontiers," an animated talking map in color, showing the expansion of our boundaries.

Silent or sound, these are priced at $60 a reel in color. Where monochrome versions are effective and available, they are priced at $40 in sound, $24 silent. All can be had on a rental basis from the Filmosound Library, its branches, and dealer representatives.

The Filmosound Library adds to its 3,000 recreational and educational films on a regular month by month schedule that puts into non-theatrical circulation the same high grade feature films that have come into first-run theatres from 24 to 36 months earlier. Leading stars appear in these top-flight "A" features, bringing pleasure to shut-ins, school, home and church audiences, after their theatrical usefulness has been fully exploited. Thus the schedule of some of the 1942 releases includes:

January :"Topper Takes a Trip" (Constance Bennett and Roland Young); February: "Boys From Syracuse" (Alan Jones, Joe Penner, Martha Raye); March: "Spring Parade" (Deanna Durbin); April: "Little Bit of Heaven" (Gloria Jean), "Zenobia" (Oliver Hardy and the elephant); May: "One Night in the Tropics" (Abbott & Costello), "Captain Fury" (Brian Aherne, Victor McLaglen).

And so on through the year, month by month, selected feature films are saved from the oblivion of the vaults, and are made available to church, school, home and other non-theatrical audiences, for the study and enjoyment through the Bell & Howell Filmosound Library.

Looking For Films? Here's How To Find Them

The Victor Animatograph Corporation, Davenport, Iowa, announce the release of their Eighth Edition Victor Directory of 16mm Film Sources. Owners of 16mm projectors will relish this news as this source directory actually tells where to send for films on the subjects in which they are interested. There are over 600 sources listed therein and 225 subjects covered in silent and sound films.

Educational Section: Here will be found pages of information devoted to the film libraries and rental service available from universities, colleges and departments of education in your State. The men and women directing the activity of these libraries discuss the utilization of the motion picture in education and prophesy the future growth and development of this medium of instruction, based on their experiences and observations in the field. County and City School Cooperative Film Libraries, as well as Independently owned City School Film Libraries, are listed.

Editorial Section: The editorials contain a wealth of information pertaining to the use of films in the classrooms, in churches, in the home and by industrial organizations. Every effort has ben put forth to make this film source directory virtually a bibliography of information on films, where to locate them, and how to use them. The price is 50c. Address your request, accompanied by remittance, to Directory Editor, Victor Animatograph Corporation, Davenport, Iowa.

Revised Prices on Goerz Lenses

In a trade letter just received from Goerz American Optical Company they announce:

"Rising labor costs have made it necessary to revise our prices of photo lenses slightly upward. Besides this we have had to add 10 per cent Federal Excise Tax imposed on the net dealer's price.

"While defense orders take up a considerable part of our production, we continually endeavor to replenish our limited stock of lenses for civilian use. Please anticipate your requirements as much as possible and impress upon your respective customers to do the same."

Write C. P. Goerz American Optical Company, 317 East 34th St., New York for new price lists.

Amateur Press Photographer's Outfit

A unique Amateur Press Photographer's Outfit containing all the essential items for successful flash pictures at night, as well as daytime pictures, has just been announced by Agfa Ansco.

The complete flash-camera outfit contains: An Agfa Cadet-Flash Camera; Flash Unit with Reflector; 8 Mazda Photoflash Lamps; an Adapter for the lamps; 2 No. 915 (size AA) Eveready Batteries; and 2 rolls of Agfa A8 (same size as 127) Superpan Press Film.

The inexpensive Amateur Press Photographer's Outfit will be a popular gift item inasmuch as it retails for less than $5.00 and represents a combination of high quality photographic products that may be used by both children and grown-ups to obtain excellent pictures.

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See how 20th Century-Fox uses "INKIES" to make Technicolor more effective





New 5-KW lamp for studio use

Can Inkies help in Technicolor? "You bet," says 20th Century-Fox, and this scene from "Week-end in Havana" shows how they put G-E MAZDA lamps to work.

1. See how they've clustered "inkies" about the table to make the scene sparkle and to pick up desired detail here and there. That's taking advantage of the *compactness* in equipment which G-E MAZDA lamps permit. You can slide them in anywhere; even, in some cases, concealing them in the scene itself.

2. Closely allied to this is their *flexibility in mounting*, for G-E MAZDA lamps burn *in any* position. You can hang them anywhere . . . above or below the scene or close to the walls to get the effect you want.

3. They offer you *versatility* which makes it easy to "paint with light" to create the effect you want or need. With a daylight filter over General Electric "CP" lamps, your light is color corrected for Technicolor; blends with arcs or daylight. Unfiltered, these lamps simulate the warmth of lamp light indoors. While by using standard G-E MAZDA lamps, you can create the glow of firelight. Are you taking full advantage of this help that G-E MAZDA lamps can give to make *your* pictures better?

GENERAL ELECTRIC

MAZDA LAMPS

TELEVISION



From the lofty height of 650 feet above sea level, the Du Mont television station W2XWV antenna dominates the metropolitan New York area with its powerful video and audio signals. The station and studios are located on the top floor of the 42-story skyscraper at 515 Madison Avenue. The steel tower is topped by a mast that can be raised and lowered down to the platform atop the tower, for maintenance of the antenna proper.

Fluorescent Lighting for Television Studios

Television performers need no longer dread the ordeal of powerful lights, with their glare and heat, heretofore accompanying the performance before the television studio camera. By going over to fluorescent illumination, Du Mont engineers have reduced glare, and particularly heat, to a minimum, while providing a more desired diffused lighting for satisftctory television images.

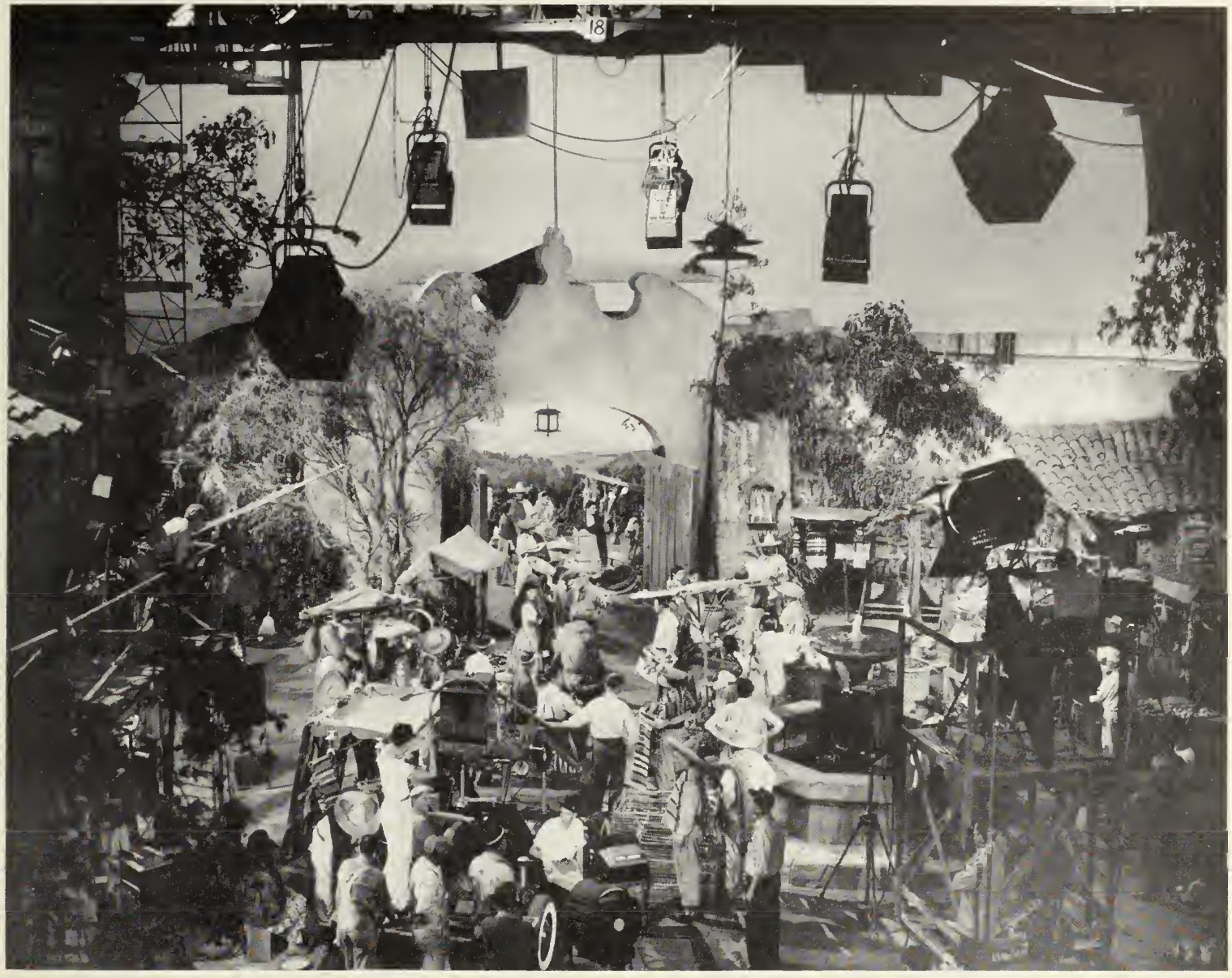
In place of powerful incandescent lamp bulbs of the spotlight type heretofore favored for television studio pickup work, 24 fluorescent lamp tubes have been installed, totalling 960 watts, in the New York television station. This wattage is but a small fraction of the wattage heretofore required. Also, the fluorescent lamps run quite cool. The tubes are mounted in horizontal rows on heavy framework, in two banks, placed on either side of the television camera facing the performers. Operating on three-phase current, these fluorescent lamps indicate a high power factor. The total effect is virtually that of six-phase operation. Meanwhile, otherwise objectionable flicker of individual fluorescent lamps is cancelled out, and a perfectly smooth, steady, ideal flat illumination of virtual daylight quality is obtained. For dramatic or modeling effects, one or more baby spots are added to the general fluorescent lighting.

The fluorescent lamp installation is but one of the several unique features to be found in the Du Mont television studios of Station W2XWV on the 42nd floor of 515 Madison Avenue, where engineers are completing and testing the equipment in anticipation of early video broadcasting on a scheduled and commercial-license basis.

S.M.P.E. Honors Late Herman A. De Vry

By unanimous decision the members of the Society of Motion Picture Engineers, while in executive session during recent convention in New York City, approved the proposal of the Society's Board of Governors that the name of Herman A. DeVry be added to the Society's Honor Roll. This Honor Roll, international in scope, was established in 1931 for the purpose of perpetuating the names of distinguished pioneers who are now deceased.

In accordance with the practice of this Society, Mr. DeVry's name will be the tenth name to be included in the list of distinguished pioneers of the motion picture industry as printed each month on the back cover of the Society's monthly Journal.



A portion of the huge hacienda set which serves as background for the colorful "Fiesta," directed by LeRoy Prinz. Robert Pittack and Al Gilks, first cameramen; George Clemens, operator; Thad Brooks, technician and Nelson McEdward, assistant. Still by Clarence Graves.

Tough Film

(Continued from Page 18)

ings, and it was his belief that had he not reached his maximum audience with his existing equipment the film would have stood an additional 2800 projections. At Treasure Island, from September 10 to 29, 1940, a single processed reel showing the Hetch Hetchy water project was used every 15 minutes for some 12 hours a day, totalling about 900 showings. The user reported that "the print is still in good condition, a little oily, but otherwise in good shape."

While, ideally, film should be processed before it is ever projected, in order to prevent damage which is as apt to occur during the first showing as during the last, old film is partially restored and its further deterioration is prevented, with application of the process. Grayness in black and white film, resulting from tarnishing of the silver is in large measure prevented by the process and—this is one of the hardest to believe—definition is added to the film itself.

Smoother projection results from application of the process, and with less tension on the sprocket holes there is apt to be less breaking.

You'd think a story like that would have been told before, wouldn't you? It is being told now, and the process is being made available to any user of motion picture film, requiring a miximum of 24 hours in the laboratory, calling for a very little expenditure.

And the claims? You think them impossible? In 1836 there was a movement to close the patent office because everything worthwhile had been invented; undoubtedly there are records showing why it was impossible for Bell to invent the telephone. Marconi the wireless, Edison the Kinetograph. Yet the impossible was accomplished—and the patent office does a bigger business every year.

There is one final answer—the judgment of the unbeliever after thorough analysis. The O'Sullivan Film Process invites any test the technician may care to make, and suggests, meanwhile, that "If it's worth filming, it's worth preserving." Those who want tough film can get it here.

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They Say---

By RELLA

● Ray Rennahan and Harry Hallenberger first cameramen on Paramount Production, "For Whom the Bell Tolls." Bill Clothier, second cameraman, will feel right at home during the shooting of the picture. as Bill was a resident of Madrid during the Spanish Civil War.

● Ray Flinsky receiving congratulations on his marriage to Elizabeth McNulty. They have just returned from a motor trip through Nevada and Arizona. "Pigeon Better Bring Message" or Ray's column in Republic Insider will be brief this time.

● Sol Polito has been achieving some interesting effects in the new Capra picture. The other day the entire set was lighted by a match held in Cary Grant's hand.

● Bert Glennon is a Captain in the United States Reserves in the aviation field. Captain Glennon left his camera during the World War to go over and bag a few enemy planes, then came back and took up where he left off in photography.

● Mickey Marigold bagged a deer for Thanksgiving.

● James S. Brown, Jr., enjoying many years of success at Larry Darmour Studios. In addition to being an excellent photographer Jim is a very pleasant fellow who skilfully handles persons and that makes everything buzz with harmony at the Darmour lot.

● President Gus Peterson, Jockey Feindel and Cliff Shirpser left for the outskirts of Utah to work in the snow region for Jam Handy.

● Elmer Fryer now in the gallery at Paramount Studio.

● Sam Greenwald, first newsreel cameraman to fly in the B-19, world's largest.

● Francis J. Burgess discharged from service and back as assistant to Leo Tover. However, "Skippy" says he has a standby call.

● Fred Parrish, still cameraman at Republic, was with Fox News Weekly in his former days. His hobby is boating, where he relaxes.

● Joseph Roberts of MGM was the cameraman who photographed the first meeting of President Roosevelt and Winston Churchill off the coast of Iceland. Trip was made on a Canadian destroyer, later transferring to the S.S. Augusta. Harry Marble, assistant, stayed behind in a hotel while Harold Marzorati went along.

● Stanley Cortez photographing the Orson Welles production. Floyd Crosby covering in Mexico City.

● Hal Mohr completing "Twin Beds" for Edward Small Productions.

● Paul Ivano enjoying a very successful season going from United Artists Studios to Fine Arts Studios, to Pathe RKO, without any time off. Les Schorr, his second, seems to be doing equally well.

● Joe Johnson, Universal newsreeler, proud possessor of a ranch in Oregon. Joe may have some cameraman fishing in his backyard some day.

● Dave Abel back in the fold once more. Now working at Paramount Studio.

● Gifford Chamberlain of Technicolor is an expert 18.2 Balkline billiard player.

● Dexter Alley called into service at Norfolk, Virginia by the United States Navy.

We Salute!



Paul Mohn, Chief Petty Officer, Photo Division, United States Navy and Captain William F. Whitley, United States Air Corp.

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